

JPRS 77684

26 March 1981

Worldwide Report

EPIDEMIOLOGY

No. 223



FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service, Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semi-monthly by the National Technical Information Service, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Indexes to this report (by keyword, author, personal names, title and series) are available from Bell & Howell, Old Mansfield Road, Wooster, Ohio 44691.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

26 March 1981

WORLDWIDE REPORT

EPIDEMIOLOGY

No. 223

CONTENTS

HUMAN DISEASES

AUSTRALIA

- Deadly Amoeba Found in Water Supply of 29 SA Towns
(Peter Blunden; THE AUSTRALIAN, 27 Feb 81) 1

CAMEROON

- Briefs
'Mysterious Disease' Diagnosed 2

CAPE VERDE

- Briefs
Malaria Incidence Decreasing 3

INDONESIA

- Briefs
Tuberculosis, Elephantiasis 4
Yaws in Donggala 4
Dengue in Mojokerto 4

ISRAEL

- Briefs
Detection of Malaria 5

KAMPUCHEA

- Kampuchea's Achievements in Public Health Field Praised
(Vu The Nung; QUAN DOI NHAN DAN, 2 Jan 81) 6

LEBANON

Vaccination for Diphtheria Underway (AL-SAFIR, 8 Feb 81)	9
Typhoid Cases Reported (AL-NAHAR, 4 Feb 81)	12
Briefs Typhoid in Military College	13

MALAWI

Children Being Vaccinated for Polio, Measles (DAILY TIMES, 20, 25 Feb 81)	14
Polio Campaign Measles Vaccinations	

MAURITIUS

Rodrigues Reports 181 Gastro-Enteritis Cases, 8 Deaths (LE MAURICIEN, 28 Feb 81)	16
---	----

MOZAMBIQUE

Preventive Medicine Director Issues Communique on Cholera Cases (NOTICIAS, 19 Feb 81)	17
Briefs Cholera Outbreak	21

NEPAL

Briefs Cholera Takes Six Lives	22
---	----

NICARAGUA

Efforts To Control Malaria, Other Endemic Diseases Noted (EL NUEVO DIARIO, 8 Jan 81)	23
---	----

NIGERIA

Briefs Cholera Kills 140	26
-----------------------------------	----

PAKISTAN

Fewer Cases of Measles Being Reported in Karachi (DAWN, 25 Feb 81)	27
---	----

PEOPLE'S REPUBLIC OF CHINA

Heilongjiang Brings Keshan Disease Under Control (GUANGMING RIBAO, 14 Feb 81)	28
Nationwide Progress Made in Prevention of Schistosomiasis (JIANKANG BAO, 1 Jan 81)	29
China Conducts Massive Diabetes Survey (JIEFANG RIBAO, 21 Feb 81)	31
Rabid Dog Bites Teenage Boy (THE SOUTH CHINA MORNING POST, 28 Feb 81)	32
Briefs	
New Rabies Vaccine	33

SRI LANKA

Briefs	
Malaria in Kahatagasdigiliya	34
Cholera Deaths	34
Cholera Claims Two Victims in Galewela	34

SUDAN

Scientific Advances Fight Waterborne Disease (THE CITIZEN, 10 Feb 81)	35
--	----

TAIWAN

Health Officials Clarify Hepatitis Vaccination Campaign (THE CHINA POST, 2 Mar 81)	38
---	----

TANZANIA

Briefs	
Measles Incidence, Preventive Measures	39

VIETNAM

Some Epidemiological Findings About Cholera Reported (Nguyen Tang Am; Y HOC THUC HANH, Sep-Oct 80)	40
Briefs	
Diarrhea Among Newborn Babies	47

ZAMBIA

Measles Claims Three Lives (TIMES OF ZAMBIA, 27 Feb 81)	48
--	----

ANIMAL DISEASES

WORLDWIDE AFFAIRS

Briefs

Outbreak of Foot-and-Mouth Disease	49
Animals Ordered Killed	49

ARGENTINA

Cattle Deaths Caused by Hepatotoxic Fungus (CLARIN, 19 Jan 81, LA PRENSA, 25 Jan 81)	50
Production Down	
Further Details	

CZECHOSLOVAKIA

Briefs

Bee Disease	53
-------------	----

HUNGARY

Briefs

Foot-and-Mouth Disease Alert	54
------------------------------	----

ISRAEL

Briefs

Rabid Foxes Found	55
-------------------	----

NEW ZEALAND

Fears of Foot-and-Mouth Disease Outbreak Prove Unfounded (Various sources, various dates)	56
--	----

Pig Farm Affected
 Quarantine Imposed
 Stock Movements Banned
 Australia Bans Animals
 Wool Movement Banned, by Doug Fyfe
 Infection Not Spreading
 Tissue Tests Negative
 Foreign Controls Lifted
 Japanese Ban Reversed
 Final Clearance Received
 Viral Disease Suspected
 Tasmania Parallel Studied
 Live Virus Tests Risky
 Garbage Feeding Criticized, by Peter Comer
 Christchurch 'PRESS' Comment, Editorial
 Auckland 'HERALD' Judgment, Editorial
 Wellington 'POST' Editorial

Losses High From Vibrio Infection in Sheep (THE PRESS, 13 Feb 81)	66
NIGERIA	
Briefs Poison Seed for Feed	67
ZIMBABWE	
Effort To Wipe Out Rabies, Anthrax in Marandellas Described (THE HERALD, 6 Mar 81)	68
PLANT DISEASES AND INSECT PESTS	
ARGENTINA	
Briefs Locust Problem	69
COLOMBIA	
Briefs Corn Infestation	70
COSTA RICA	
Briefs Nicaragua Border Quarantine	71
Banana Disease Alarm	71
INDONESIA	
Briefs Insect Pests	72
NEW ZEALAND	
Blind Seed Disease in Ryegrass Crops Worst Since 1958 (THE PRESS, 13 Feb 81)	73
PEOPLE'S REPUBLIC OF CHINA	
Wheat Production Proposals Organized Against Drought (Henan Provincial Service, 5 Mar 81)	74
POLAND	
Campaign Against Destructive Hn Moth Described (Jerzy Burzynski, et al.; LAS, 1-15 Nov 80)	75
SWEDEN	
Pyrethroids To Be Fixed in Coniferous Plants To Control Hylobius (DAGENS NYHETER, 8 Feb 81)	82

DEADLY AMOEBA FOUND IN WATER SUPPLY OF 29 SA TOWNS

Canberra THE AUSTRALIAN in English 27 Feb 81 p 3

[Article by Peter Blunden]

[Text]

A STORM of protest has erupted following the discovery of a deadly amoeba in the water supplies of 29 towns in South Australia.

The State Minister of Health, Mrs Adamson, told Parliament yesterday that tests had detected the amoeba as far apart as Ceduna in the far west, Mannahull in the north, and Keith in the south-east.

The tests were carried out following the death in Whyalla a month ago of 10-year-old Stephen Murray, of amoebic meningitis.

The Opposition claimed that documents it had produced showed the Government had put cost-saving before public health by reducing chlorine levels in some centres.

The Labor leader, Mr Bannon, renewed his call for the resignation of Mrs Adamson and the Minister of Water Resources, Mr Arnold, over their "totally irresponsible" handling of the issue.

Mrs Adamson last night said water authorities had been surprised to discover traces of the amoeba in such a wide area.

She said the Government is to launch a \$150,000-a-year program to upgrade the Amoeba Identification Unit of the State Water Laboratories.

A \$75,000-a-year public awareness campaign is to be introduced immediately and a microbiologist and health commission medical officer will be sent overseas to evaluate methods of combating such problems.

CSO: 5400

CAMEROON

BRIEFS

'MYSTERIOUS DISEASE' DIAGNOSED--The mysterious epidemic reported in May 1980 affecting only girls 15-21 years of age in the Batibo area has been diagnosed as collective psychosis, according to findings of the hospital laboratories. Alimentary intoxication, Indian hemp smoking, cerebral malaria, and cyanate intoxication, all considered possibilities at first, were ruled out. The laboratories have concluded that the disease originated apparently in a religious class with a discussion of ghosts. [Martin Nkemngu] [Yaounde CAMEROON TRIBUNE in English 25 Feb 81 p 7]

CSO: 5400

BRIEFS

MALARIA INCIDENCE DECREASING--Praia, 26 Feb--Cases of malaria in Cape Verde were 4 times less in 1980 than in 1978 following the eradication campaign carried out by the government, an official source stated to ANOP [Portuguese Press Agency] today. The campaign received assistance from the World Health Organization (WHO) as well as technical and scientific assistance from the Lisbon Institute of Hygiene and Tropical Medicine. While 857 cases of malaria were registered in 1978, with 18 deaths listed, there were 213 cases and only 1 death in 1980. [Text] [Maputo NOTICIAS in Portuguese 27 Feb 81 p 8]

CSO: 5400

INDONESIA

BRIEFS

TUBERCULOSIS, ELEPHANTIASIS--Tuberculosis is attacking people living along the coast in Tanah Laut Regency, South Kalimantan. There are twenty cases in the village of Batakan in Takisung Subdistrict. The Regency Health Service head told KOMPAS that only influenza was more prevalent than tuberculosis. Elephantiasis is also affecting people living near swamps along the coast; there are 10 cases in the Batakan area. [Excerpts] [Jakarta KOMPAS in Indonesian 19 Jan 81 p 8] 9197

YAWS IN DONGGALA--An outbreak of yaws has struck ten of the 16 subdistricts in Donggala Regency, Kulawi. There are 319 victims with non-infectious yaws and 110 with infectious yaws. Most are located in mountainous areas. Babies can contract yaws if their surroundings are unsanitary. Hardest hit is Mautong Subdistrict, with 39 cases of non-infectious yaws and 59 of infectious yaws. [Excerpts] [Jakarta KOMPAS in Indonesian 31 Jan 81 p 8] 9197

DENGUE IN MOJOKERTO--A dengue epidemic has affected 21 villages in Mojokerto Regency, East Java. Patients are being sent to Balai Desa village. By 24 January, there were 147 cases, mostly children. Initially, dengue broke out in eight villages, claiming four lives. Due to a shortage of medical personnel, dengue spread to 13 more villages, claiming additional lives. Facilities in Balai Desa are strained; 81 patients are crowded into three small reception areas, sleeping four or five to a bed. [Excerpts] [Jakarta SINAR HARAPAN in Indonesian 21 Jan 81 p 3] 9197

CSO: 5400

BRIEFS

DETECTION OF MALARIA--Scientists at the Hebrew University's faculty of medicine have developed a new technique for detecting the presence of malarial parasites in infected blood. The new technique has already been tested under field conditions in Thailand and has proved more reliable and sensitive than the methods of microscopic examination of blood smears which has been used up to now. The new method developed by Dr Dov Sulitzeanu, Dr Dan Spira, Hava Avraham and their colleagues is based on a radioimmunoassay of the blood of suspected malaria victims. [Text] [Jerusalem THE JERUSALEM POST in English 1 Mar 81 p 3]

CSO: 5400

KAMPUCHEA'S ACHIEVEMENTS IN PUBLIC HEALTH FIELD PRAISED

Hanoi QUAN DOI NHAN DAN in Vietnamese 2 Jan 81 p 2

[Article by Vu The Nung: "On the Occasion of the 2nd Anniversary of the Kampuchean People's Victory Day (7 January 1979-7 January 1981) -- The Public Health Network, A Great Achievement"]

[Text] One of the Kampuchean people's urgent tasks after the day of liberation was to care for and protect the health of the people who had survived the genocidal acts of the Pol Pot-Ieng Sari clique.

In the public health field alone, that genocidal clique had turned all hospitals and clinics into prisons, centers of torture and experimental killings, ammunition dumps or fertilizer storages. Of 683 high-ranking Kampuchean physicians and pharmacists only 69 had survived. In Phnom Penh, where most of the country's public health facilities were located, only 50 of the 500 physicians had survived the genocide. The people had been subjected to hard labor, starvation and beatings in a ruthless manner. As a result, the percentage of those who had contracted intestinal diseases, malaria, tuberculosis, anemic disorders, etc. was quite high.

Right after the day of liberation, along with the efforts to restore industrial and agricultural production and to gradually stabilize the standard of living, the revolutionary administrations at different levels in Kampuchea already showed an utmost concern about restoring the people's health. Twenty central and provincial hospitals were repaired and received modern equipment. Three large multi-departmental hospitals in the capital of Phnom Penh, with thousands of beds, in 1980 treated and cured tens of thousands of patients. The groups of doctors, physicians and nurses in the three hospitals successfully performed hundreds of complicated surgical procedures and earned the trust, love and respect of patients. The Siem Reap hospital was one of the large hospitals that had been totally destroyed by the Pol Pot clique. After a month of restoration, the hospital was in operation again and accepted everyday about 300 people for examination

and treatment. Assisted and directly guided by the Ministry of Public Health, the provincial public health sectors succeeded in urging the people to contribute labor and materials for the repairs and construction of public health facilities. Ninety percent of the country's districts had their own hospitals. Almost all villages had clinics, medical aid stations and maternity clinics. The material base was gradually strengthened, thus satisfying the people's increasing needs for medical examination and treatment. In the last 2 years, the Kampuchean public health facilities examined and dispensed medicines to more than 3 million people. In 1980 the total number of medical examinations was more than twice the 1979 figure. Thousands of people who had contracted serious diseases and had received no treatment under the Pol Pot regime were fully treated and cured and returned to production as healthy people.

The movement to practice preventive hygiene, particularly to prevent and control malaria, is widely developing throughout the country. Hundreds of central and provincial mobile public health units, which were established after the day of liberation, have gone to different localities to coordinate their activities with the public health facilities, to urge the people to take preventive hygienic measures, to provide the people with on-the-spot medical examinations and treatment and along with the people to build the new way of living. The 150-bed Phnom Penh Tuberculosis Control Center since the beginning of the year has examined and cured nearly 1,000 people. Over 1 million people have been vaccinated against typhoid, malaria, dysentery, diarrhea, etc. The pockets of epidemics have been destroyed in time.

The training of public health cadres showed many efforts and brought about good results. After the day of liberation, the Ministry of Public Health assembled 69 high-ranking doctors and pharmacists and hundreds of surviving physicians and nurses, sent them back to hospitals and clinics to work and at the same time opened many schools and classes to train public health cadres. The Phnom Penh School of Medicine and Pharmacy, one of Kampuchea's large universities, which was heavily destroyed during the Pol Pot regime, was reopened after nearly a year of restoration and accepted 728 students, who had survived the Pol Pot-Ieng Sari genocide, including 506 medical students and 222 pharmacy students. The school is quite well-equipped. Its curricula are extended to satisfy the country's new needs. It has just awarded graduation degrees to 17 former students who have completed their 5-year and 6-year programs. The Ministry of Public Health also opened an intermediate-level public health school in Phnom Penh. The first 150 physicians having graduated from the school have gone to work in hospitals and clinics in the capital and provinces throughout the country. Many provincial schools and classes that trained public health cadres were able to produce in the last 2 years more than 2,000 physicians and nurses and thus raised the total of Kampuchea's public health cadres and personnel to nearly 3,000.

The Phnom Penh Pharmaceutical Enterprise has been restored and has resumed its operations. In 1980 it produced over 80 tons of medicines of all kinds and supplied most of the medicines needed for treatment of patients in 3 large hospitals in the capital and a number of provincial hospitals. Many provinces have built plants to produce modern medicines or to prepare Oriental medicinal materials using the locally available pharmaceutical products. Treatment of diseases with Oriental medicinal materials has brought about good results and received a big welcome from large numbers of cadres and people.

5598

CSO: 5400

VACCINATION FOR DIPHTHERIA UNDERWAY

Beirut AL-SAFIR in Arabic 8 Feb 80 p 4

[Article: "Diphtheria: Muhanna Is In Ba'labakk and Vaccination Continues in 'Akkar; Sa'adah: Some Employees Sold the Vaccines and Investigations Are Underway To Locate 30,000 Vaccines "]

[Text] No new diphtheria afflictions were reported for the second day, while vaccination campaigns continued in the Ba'labakk and 'Akkar districts. Increasing requests for vaccines were placed, while the Director General for the Ministry of Public Health Dr Robert Sa'adah, announced that the clinics that received the vaccines in Ba'labakk and the north sold each vaccine for 10 Lebanese pounds. He also said that investigations are underway to locate 30,000 vaccines, equally divided and distributed to both areas.

Sa'adah reported the above after a meeting with the Minister of Public Health Dr Biari, and the Director of Medical Care Dr Fawzi Ma'aluli.

Sa'adah said: "We proposed to the minister the distribution of necessary vaccines to the clinics. It is really unfortunate that we hear complaints about the lack of the necessary vaccines after we distributed large amounts and are about to distribute some more. However, we have become very cautious against the theft operations a number of clinics that claim shortage of vaccines are conducting, while they sell these vaccines to the citizens for 10 Lebanese pounds each. I would like to mention that we delivered 15,000 new vaccines to the director of the health office in the north. The governor of the north called me yesterday and we agreed to send a new amount containing 200,000 vaccines while increasing control over the clinics and the vaccination operation so that the lives of the citizens are not in the hands of opportunists who receive free vaccines and sell them."

The minister of public health had sent the Director of Preventive Care Dr Muhammad Muhanna to Ba'labakk yesterday, where he held a meeting in the Ba'labakk district attended by the Director of Health in al-Biq'a' Dr Jozef Safi, the district physician Dr Tariq Qanawati, the Ba'labakk hospital director, Dr Ja'afar 'Umayri, the district's Secretary General George Saydah and health controllers Muhammad Dabbas and Yunis Yunis. The subject of diphtheria and the afflictions that occurred in 'Israel were discussed. The attendees confirmed that

investigations revealed the existence of the diphtheria epidemic in towns bordering with Syria, especially 'Iraal which is close to Hama. They dealt with the nature and causes of diphtheria which claimed four victims between the ages of 4 and 12.

In discussing the measures taken by the Ministry of Public Health, Dr Muhanna said: "The ministry promptly provided the vaccinations; 7,940 children were vaccinated in 'Iraal and about 8,000 children in nearby villages. This was in addition to conducting an information campaign to urge parents to vaccinate their children."

The Ministry of Public Health provided the health office in al-Biqs' and the health office in the Ba'labakk district with 20,000 triple-vaccines and 15,000 polio vaccines. Dr 'Umayri confirmed that two rooms in the Ba'labakk government hospital were allocated to treat any future afflictions.

Dr Muhanna hoped for the implementation of the wide vaccination project, sponsored by the Ministry of Public Health. This includes vaccinations for polio, whooping cough and diphtheria, beginning with three-month old infants and up to the age of 6 years, administered in three doses with one month intervals between them. There is also one single vaccination against measles, administered under the skin to children from the age of eight months and until 3 years. A vaccination against tuberculosis is administered to children in their first year of elementary school.

Vaccinations in 'Akkar

In the north, Governor Iskandar Ghubril received the director of the health office in the north, Dr Samir Kabarah, and they discussed ways of providing sufficient vaccines. After the meeting, Kabarah said that he distributed yesterday morning 15,000 triple-vaccines and that he has no more vaccines left. During two phone conversations with the Ministry of Public Health, Ghubril requested an additional amount of vaccinations.

The director general of the Ministry of Public Health Dr Robert Sa'adah seemed surprised that they ran out of all the vaccines in one day, and he promised to provide additional vaccines when they arrived from France the following Tuesday.

On the other hand, the district commissioner of al-Kurah, Riyadh Qawuqji, requested the necessary vaccines and the health office director in the north received similar requests from al-Dnayyah.

Some 'Akkar villages received triple-vaccines. All al-Dawrah children were vaccinated by a medical team from the Palestinian Red Crescent. The al-Dawrah school principal, Nafiz Rustum, also acquired a certain amount of vaccines from the Ministry of Public Health.

In the old town of 'Akkar, approximately 800 children were vaccinated. The PLO medical team will continue its operation today. The physician in charge said that the operation will continue for 3 days and will involve 5,000 children.

Vaccinations were also administered in the town of Takrit. The Palestinian Red Crescent offered 70 vaccines and the Democratic Youth Syndicate offered 200 vaccines. The Rural Hospital and the clinic in Halba, both part of the Ministry of Public Health, offered approximately 500 vaccines. The al-Qubayyat clinic also offered 300 vaccines. The clinic's supervising physician in the district confirmed that there were no diphtheria afflictions in the 50 al-Durayb villages. A team of Palestinian Red Crescent employees went yesterday to al-Qati' district and began their vaccination campaign in Fatiq.

A committee representing the Ministry of Public Health also proceeded to al-Jumah and began a vaccination campaign in the Zabina clinic. Another vaccination campaign is also underway in the Birqayil clinic.

Schools resumed their regular schedules in the villages of 'Akkar, except for the Sacred Family School in Bayt Malat, which will resume its regular schedule next Tuesday.

Employees of the vaccination teams said that the vaccines administered to children are designated for those under 5 years of age, although some deaths occurred among children older than 5.

In Beirut, a joint report by the National Rescue Organization and the medical office of the Union of People's Working Forces mentioned that they are continuing their vaccination campaigns against diphtheria and whooping cough in Beirut, al-Biq'a, the north, 'Akkar and the south. Moving clinics also traveled throughout the districts of West Beirut, al-Janah and the South Matn coast, where they administered vaccinations.

In its report, the organization implored the Ministry of Public Health for "serious and fast action to provide the required vaccinations, without giving the excuse that the ministry has run out of vaccines."

The organization also warned the citizens against the dangers of diphtheria and whooping cough and urged them to have their children vaccinated.

9455
CS01 5400

TYPHOID CASES REPORTED

Beirut AL-NAHAR in Arabic 4 Feb 81 p 5

[Article: "Typhoid Cases Reported in al-Hazimiyah Due to Pipe Rupture"]

[Text] The Director of Preventive Health Dr Muhammad Muhanna informed the Minister of Public Health Dr Nazih al-Bisri that new typhoid cases appeared several days ago in al-Hazimiyah. He blamed the rupture of one water pipe for the afflictions.

After a meeting with the minister, Dr Muhanna said that the information available from the Ba'labakk district reported no diphtheria afflictions in 'Irsal for one week, after the minister of Public Health administered DPT vaccinations to 10,000 citizens and children, due to the residents' responsiveness to being vaccinated, which is the only means of guaranteeing the protection of children.

Relative to the typhoid afflictions in al-Hazimiyah, Muhanna said that the minister of Public Health has taken all the necessary measures to prevent the disease from spreading, and that the afflicted persons were treated and are in good condition.

Later, Dr al-Bisri received Deputy Mikhayil al-Dahir who presented him with the health situation in the district of 'Akkar and the conclusions reached during the studies regarding the equipping of the government hospital in al-Qubayyat. Dahir said that the minister promised him to look after 'Akkar's demands and to work on providing the necessary funds to begin implementing some of the projects.

The minister of Public Health also met with the resident representative of the UN Developmental Program, Dr Iqbal Akhwand.

The National Rescue Organization announced that the diphtheria-whooping cough vaccination campaign will begin on Wednesday in the following locations: Burj Abu-Haydar clinic near the mosque, al-Zaydantiyyah clinic at the Jamal 'Abdul-Nasir Club headquarters, al-Muhajjarin clinic in al-Awza'i, and the south coast clinic in Bi'r al-'Abd. The campaign will continue in Beirut until 7 February.

In the [other] governorates, the [vaccination] campaign will begin on Thursday and will continue until 8 February. This will include the following locations; the Kafr Rumman clinic, the port of Tripoli clinic, and the Ba'labakk clinic.

In Tripoli, health centers and clinics continue to vaccinate infants and children against diphtheria and whooping cough. The Ibn Sina clinic of the National Rescue Organization is conducting a wide campaign in relation to this. Approximately 300 children were vaccinated yesterday in Tripoli and the northern districts.

LEBANON

BRIEFS

TYPHOID IN MILITARY COLLEGE--It was learned yesterday that there were 15 students from the military college among those afflicted with typhoid in al-Hazimiyah. They were transferred to the military hospital. Sources said that the afflicted students drank from the college's water faucets, and that typhoid symptoms became evident the day before yesterday. (Text) (Beirut AL-SAFIR in Arabic 5 Feb 81 p 4)

9455

CSO: 5400

CHILDREN BEING VACCINATED FOR POLIO, MEASLES

Polio Campaign

Blantyre DAILY TIMES in English 25 Feb 81 p 7

[Excerpt]

AN official from the Ministry of Health in Lilongwe has appealed to parents in the district to bring their children in large numbers for polio vaccinations when the campaign team goes to their areas.

Giving a progress report at a District Development Committee (DDC) meeting on the polio campaign which started in October last year in the district, the official said more children were needed for the vaccination if the district was to attain the projected 85 per cent vaccination rate and wipe out polio in the district.

He said during this first phase however, the results have so far been satisfactory with the nine areas visited realising a 79 per cent average rate over the past four months.

The areas include the headquarters of Chief Chitekwe (90 percent), Chief Mazungera (79 percent), Chief Kalumbi (79 percent), Chief Chadza (75 percent), Chief Kabudula (81 percent), Chief Chinaka (72 percent), Chief Khongoni (71 percent), and Chief Chitakula (85 percent).

Areas still to be covered during the first campaign are the headquarters of Chief Malili, Tzabungo, Kahumba, Chimutu, Njewa and Lilongwe City.

Measles Vaccinations

Blantyre DAILY TIMES in English 20 Feb 81 p 7

[Text]

MEASLES vaccination campaign in Salima which started in the district's northern constituency last Wednesday, February 11, has moved to the central constituency.

The vaccination's operations officer said here that the team comprises of 40 vaccinators, four supervisors and two advanced publicity officers in vaccinating children at Salima District Hospital, Malindi Railways Station, ADMARC, Salima Local Education Authority (LEA) Primary School, Salima Town Hall, Malimba, Police Room and Kalsanga Primary School in the township and at various places in the areas of Chief Magwaga and Kalsanga in Salima central.

The team moves to Salima South covering the areas of Chief Pemba, Ndindi and sub-chief Kambwiri and Kambukama.

The team has already vaccinated children in the areas of Chief Khumbwa and sub-Chief Muna and Mwanu in Salima North where the vaccination's operations officer said, there was an encouraging response especially during the first three days of the campaign when more than 1,000 children came for vaccination.

However, the inoculation was suspended in some areas in Salima North due to bad roads caused by heavy rains and the team will therefore, go back to those areas when the weather improves, he concluded. — MANA

C80: 5400

RODRIGUES REPORTS 181 GASTRO-ENTERITIS CASES, 8 DEATHS

Port Louis LE MAURICIEN in French 28 Feb 81 pp 1, 4

[Text] Eight children died from gastro-enteritis during January and February in Rodrigues, four of them between 20 and 26 February, when the epidemic spread into the 21st district. These statistics were revealed by the minister of health, Dr B. Ghurburrin, yesterday during a press conference.

The minister indicated that the number of admissions rose during these 2 months to 181, of which 29 were in January and 152 in February. The minister is in constant touch with Rodrigues by telephone and is following the situation closely. Since the beginning of this epidemic, the ministry has rushed a huge quantity of antibiotics to the island including Ampiciline capsules, and it also sent tablets for sterilization of water. The medical team working in Rodrigues has also been reinforced. In fact, a pediatrician, a general practitioner, and three paramedics have been sent there.

According to information from Rodrigues, the minister of health fears that certain children were stricken with a viral lung infection. Medical specimens were taken and flown to European laboratories for analysis. The minister, nevertheless, regrets that there is no virology laboratory in Mauritius where such analyses could have been done.

In addition, Dr Ramphul, in charge of children's medicine, and Mr Tegally, chief health inspector, have been sent to Rodrigues to study the causes of the gastro-enteritis epidemic.

According to Dr Ghurburrin, the situation is now returning to normal, and on Thursday only three cases were admitted to Rodrigues hospitals.

CSO: 5400

PREVENTIVE MEDICINE DIRECTOR ISSUES COMMUNIQUE ON CHOLERA CASES

Maputo NOTICIAS in Portuguese 19 Feb 81 pp 3-4

[Text] Health Ministry speeds up efforts to bring cholera outbreak in country under control. Director of preventive medicine makes statement on this issue at press conference. Between December of last year and this February, two cholera cases were registered in the city of Maputo and a third one appeared in the district of Moamba, especially in the little towns of Moamba and Ressano Garcia; the total number of dead resulting from this disease now is 28. During that same period of time, other cases broke out in Beira, province of Sofala, and in the district of Memba, in Nampula, causing 23 deaths in the first-named place. Intensive vaccination and control efforts are underway both in Maputo and in the remaining infected areas to prevent the spread of this disease.

During a press conference held yesterday in Maputo by the national director of preventive medicine, Jorge Cabral--which was also attended by the official in charge of the epidemiology sector of that directorate, Ana Maria Novoa--data were disclosed regarding the efforts now underway to bring the situation under control; it was pointed out that there was no reason in Maputo to worry about the water because, in spite of the water shortage, it was being treated properly and is not contaminated.

At the end of the meeting with the press, the National Directorate of Preventive Medicine distributed a document on this subject which we reproduce below.

Text of Document

1. Cholera cases appeared in the pediatrics ward of the Maputo Central Hospital on 6 December 1980. A series of epidemic control measures was immediately put into practice in the hospital itself which at that time was the only focus of the disease.

The control measures taken were primarily aimed at preventing the spread of the disease to the community outside the hospital especially since we are facing here a microbe (?) which is not at all common and which resists treatment with antibiotics most frequently used in the fight against this disease.

Cholera cases appeared on 17 December of that year outside the hospital among families or persons related to the children who were patients at the Maputo Central

Hospital; as a result, a new cholera isolation ward was established at the Benfica Hospital in order to initiate preventive measures and vaccination against the disease among persons who lived with the patients.

At the end of December, there were 83 confirmed cholera cases in Maputo, with 71 cases in the Maputo Central Hospital, resulting in two deaths and 12 cases outside the hospital, without any deaths, all of them related to the Maputo Central Hospital and infected by the same microbe which resists the antibiotics most commonly used in treating the disease which broke out in the hospital.

The situation continued to evolve in the Central Hospital in January 1981 in spite of the measures taken to stop the transmission of the disease which, among other things, included the transfer of the patients to a ward which offered better conditions of isolation and control for sick children as well as their accompanying mothers. Another 74 stubborn cholera cases were confirmed in January in the isolation ward at the Maputo Central Hospital among children and accompanying mothers.

Parallel to that, there was a time interval in the city from the end of December until 23 January when there were no new cases until cholera cases began to reappear on 23 January among adults in the Malanga section of the city. These cases however involved infection by a microbe different from the one encountered until then and already sensitive to all antibiotics which therefore proves to have an origin different from the outbreak at the Maputo Central Hospital.

It is believed that this new focus could have sprung from infected persons who reached that part of the city through mass transportation from other districts in the province of Maputo, especially the district of Moamba, where cholera cases also appeared starting on 8 January, almost certainly transmitted across the border with South Africa where there has been a vast cholera epidemic for practically 3 months.

The new disease focus, which appeared in the Malanga section, after a week spread to the Chamanculo section and later on to some parts of the Alto Mae section, in an area around Trabalho Avenue.

Some isolated cases also came up outside that area in other sections of the city, connected both with the outbreak at the Maputo Central Hospital and the one on Trabalho Avenue as well as in the other infected districts of the province of Maputo.

As a result of this situation in the city of Maputo, another 59 cases of cholera have already been confirmed since 25 January and they are being treated at the Benfica Hospital; there has been one death here so far.

On the other hand, transmission has not yet been completely brought under control in the isolation ward of the Maputo Central Hospital and in February, children who had come down with cholera in the infected parts of the city, primarily from the outbreak on Trabalho Avenue, died; in February there were another 25 cholera cases with a total of 12 deaths since the start of the outbreak which began in December.

In summary, between 6 December and today, there were 170 cholera cases in Maputo at the Maputo Central Hospital with 12 deaths and 78 cases with one death from the rest of the city.

2. Control and disease prevention measures are being continued in the city especially through vaccinations although efforts are now being concentrated on the outbreak area running parallel to Trabalho Avenue. In spite of the efforts made by the prevention and medical evaluation center of Maputo to mobilize the population for mass vaccinations in the stricken districts, the vaccination rate in these concentrated areas was very low, covering less than 40 percent of the population who should have been protected. The vaccination teams did preparatory work with the party agencies and the democratic mass organizations in the various residential areas--but without any great results. Let us therefore appeal to the residents of the sections of Malanga, Chamanculo, and Alto Mae to go to the vaccination places on the basis of a schedule given to the political section in the residential area so that they may be vaccinated and so that we may thus avoid spreading a disease which can kill people in just a few hours.

In addition to vaccination throughout the city, people must be more careful in their home hygiene and in their individual hygiene, especially by washing their hands several times a day and above all before eating and after using the bathroom or toilets.

It is also necessary to prohibit bathing in the ocean in an area extending from Ponta Vermelha to the Maritime Club where the water has been contaminated by sewage from the city.

On the other hand, studies are being continued in the area around Trabalho Avenue to determine the existence of a possible source of food contamination linked to the appearance of disease cases. If this turns out to be so, control measures and even temporary closings must be ordered until the situation is effectively under control.

3. Other parts of the country, in addition to the city of Maputo, have been affected by the appearance of cholera.

Cholera cases appeared in the province of Maputo, in Moamba and in Ressano Garcia starting on 8 January; there have been 58 suspected cases, 32 of which were confirmed and which resulted in the deaths of 15 persons.

In the meantime, the situation has been stationary for about a week and appears to be under control.

The city of Beira was also stricken a short time ago with the appearance of cholera cases which at one particular point were difficult to bring under control since the city was subjected to heavy rainfall at that time.

The first cholera cases appeared in the city of Beira on 20 January and as of 14 February, 112 cases had been confirmed, with 23 deaths.

A team left Maputo to go to Beira to support the organization of the fight against the disease; an isolation ward has been set up in the Beira Central Hospital and vaccination and distribution of preventive medicines on a large scale has been launched. Passenger traffic outside Beira by all means of transportation is also being checked.

Finally, the province of Nampula, specifically, the district of Moamba, reported cholera cases among people in rural areas and some fishing villages along the coast.

After a period of alert of almost 3 weeks--during which no cases were detected in that zone--communication difficulties with the district of Moamba and the discovery of some seriously suspected cases in recent days do not enable us to rule out the assumption that a new outbreak might be coming up in that part of the country.

4. The provincial health directorates have all of the practical action standards to handle suspected outbreaks and sufficient medication, vaccine, and disinfectant stocks are available nationwide to take action aimed at controlling and fighting these outbreaks.

9058

CSO: 5400

BRIEFS

CHOLERA OUTBREAK--Efforts to fight the cholera outbreak in Beira are being made by officials of the Sofala Provincial Hospital. Very effective anti-cholera tablets will be distributed soon. A campaign to vaccinate all Beira residents is also being carried out. According to our team in Beira 170,000 people have been vaccinated so far. It will be recalled that the cholera outbreak began last January and by 20 February, 25 people had died of it. The daily average number of patients at Beira hospital was 15. [Text] [LDO60224 Maputo Domestic Service in Portuguese 1030 GMT 5 Mar 81]

C80: 3400

BRIEFS

CHOLERA TAKES SIX LIVES—Jakarta, Feb 27—An outbreak of cholera was yesterday reported in Indonesia's tourist island of Bali claiming six lives, reports AFP. A total of 291 cases have been registered since two weeks ago. This was the biggest epidemic in Bali during the past three years, Antara News Agency said. [Text] [Kathmandu THE RISING NEPAL in English 28 Feb 81 p 2]

CSO: 5400

EFFORTS TO CONTROL MALARIA, OTHER ENDEMIC DISEASES NOTED

Managua EL NUEVO DIARIO in Spanish 8 Jan 81 p 3

[Text] Malaria is an endemic disease in Nicaragua and the highest incidence of the disease appears in the areas of Managua, Leon and Chinandega, where 70 percent of the confirmed cases are found.

The problem of malaria worsens in the months of October and December, because of ecological factors, that is, the increase in rainfall causes an increase in the number of puddles, thus increasing the number of mosquito breeding places.

As of 30 November 1980, 28,000 cases of this disease had been recorded as compared to 27,000 in 1979. In addition, in the City of Managua there are 35 kilometers of swampy coast along Lake Managua which constitutes a serious problem because the stagnant water promotes the development of mosquito breeding places. In order to solve this problem effectively steps are being taken which are coordinated with those of other government agencies, among them the Managua Reconstruction Junta.

In view of these unhealthful conditions priority has been given to emergency measures in the 99 neighborhoods located on the shores of Lake Managua, which have a population of 294,894 inhabitants. Urban Managua has been subdivided into 5 sectors, and 119 posts for the reporting of cases of the fever have been set up for the purpose of detecting positive cases and providing the appropriate radical treatment based on chloroquine and primaquine.

Also, in the lake shore area the Ministry of Health is spreading black oil on puddles in order to eliminate mosquito breeding places. The following additional actions are being taken:

Spraying the inside of houses with Baygon an Cholorophoxin.

Destroying the places where larvae are located.

Inspecting the drains of the canals which come from the Managua Sierra.

Spreading black oil on sidewalk drains and so forth.

All of these activities are carried out with the small amount of equipment at the disposal of the Malaria Control Area.

It should be mentioned that the mass organizations have given their full support since they participate in the malaria control program, holding Cleanup Days to eliminate stagnant water, clearing out underbrush and instructing the community on the continuance of the antimalaria measures described above.

This emergency plan is being financed through a donation by the United Nations Development Program to the Ministry of Health of equipment, insecticide and transportation for the Malaria Eradication Program.

Immunization for the Most Common Diseases of the Nicaraguan People

During the Vaccination Days carried out in 1980, 1 million doses of vaccine were administered, which means that 75 percent of the infant population of the country is vaccinated against poliomyelitis.

Measles and Others

Immunization coverage against measles was 90 percent for the children under 9 years, more than 200,000 vaccinations having been administered. In addition, 321,894 doses of vaccine were administered for diphtheria, whooping cough and tetanus, providing protection to 57 percent of the children under 9 years old.

Polio Epidemic Control

Public Health personnel were faced with a polio epidemic in 1979; however, in 1980 only 13 suspicious cases, which have not yet been confirmed, were uncovered. All the cases were of children who had not been vaccinated.

On Rabies Control

Preventive Medicine vaccinated 153,424 dogs in 1980, which is 10,000 more than in 1979.

It is important to point out that providing vaccines for carrying out the appropriate immunisations has been a problem since our country does not produce the vaccine and must depend on delivery from other countries.

This problem is being overcome by the creation of the Central (Storage) Bank of the Refrigeration System which was built at the Medical Supply Center in October 1980 in a 132 square meter area, with the capacity to store 400 liters of biologicals.

In addition, this refrigeration system has been extended to all Public Health regions of the country which permits the storage and issuance of biologicals for the scheduled vaccination days.

This refrigeration system consists of 23 vehicles, 200 refrigerators, 200 ice boxes, 688 thermos bottles and 484 coolers costing approximately \$400,000, including the cost of the Central Bank.

Tuberculosis Control a Priority in '81

There are 10,000 recorded cases of tuberculosis in the country, 3,582 patients being under control. There are mining areas on the Atlantic which could not be checked out because of the difficulty of communication.

For this purpose the Ministry of Public Health will initiate a program in 1981 for the control of Tuberculosis.

9204

CBO: 3400

NIGERIA

BRIEFS

CHOLERA KILLS 140--Lagos, 5 Mar (AFP)--At least 140 people have died of cholera in Bendel State, southern Nigeria, THE OBSERVER newspaper reported here. Worst hit were towns and villages in the Niger delta area, the paper said. A team of doctors and medical staff had been dispatched to the affected areas and the local population was being vaccinated, the report said. [Text] [AB051413 Paris AFP in English 1958 GMT 5 Mar 81]

CSO: 5400

FEWER CASES OF MEASLES BEING REPORTED IN KARACHI

Karachi DAWN in English 25 Feb 81 p 8

[Text]

Measles which struck Karachi with extra severity this year is waning and fewer cases are now being reported to the hospitals.

First measles victims were registered in early October last year. The peak was reached between November and January, doctors said.

Surprisingly enough, the chain of Government-run immunisation Centres did not provide vaccination cover against measles. This largely contributed to widespread incidence of disease in the city, they maintained.

The two peculiarities of measles this year were: virus was very virulent and encephalitic element was prominent causing complications leading to paralysis and other problems in some cases; and (ii) bacterial infection was quite common.

It is perhaps these factors that oblige some western experts to believe that measles prevalent in under-developed countries is an altogether different virus than the one commonly known to western medical science.

Another thing particularly noticed this year was that the incubation period was not strict, and quite often high fever and severe cough were reported during the stage of primary infection also.

In many cases, parents claimed the child had contracted the disease a second time. In the absence of authentic research, this could be mere suspicion or a probability at best, doctors opined.

Immunisation Centres

In view of the limitations and the inadequacies of the immunisation Centres, parents arranged vaccination through child specialists who generally kept stocks available all the time.

Vaccines were also freely available in the market, and many people got the vaccination through family doctors.

It is time still for such vaccination to ensure immunisation and to guard against the backlash, doctors emphasised.

However, since measles is almost an annual feature it is imperative that the Government-run immunisation Centres are equipped with this vaccine as well, they said.

In fact, the immunisation Centres will fail to serve the purpose if they did not also carry out vaccination against typhoid, the water-borne disease quite common both in urban and rural areas of Pakistan.

At present, the immunisation Centres provide only DPT, polio and BCG vaccination. The scope must be enlarged to cover measles and typhoid which were both deadly, they stressed.

On the other hand, health education must be stepped up as an essential part of preventive health medicine so that hospitals are spared to handle unavoidable ailments, they maintained.

HEILONGJIANG BRINGS KESHAN DISEASE UNDER CONTROL

Beijing GUANGMING RIBAO in Chinese 14 Feb 81 p 1

[Text] Reporter Wang Erong [3769 1869 2837] reported that in Heilongjiang Province, which has a high incidence of Keshan Disease, it has been basically brought under control.

Keshan Disease is an endemic myocardial disease of unknown pathogenesis. It got the name from Keshan County of Heilongjiang where it was first discovered. The disease occurs more frequently in the winter and the victims are mostly rural women of child-bearing age and children, after weaning and before entering school. Its mortality rate is sometimes as high as 4 percent, becoming a great threat to the health of the people of north China. After liberation, the party and government were very concerned about this disease. Comrade Zhou Enlai dispatched medical specialists from Beijing several times to such high incidence regions as Shangzhi County of Heilongjiang to proceed with research on prevention and control. The Heilongjiang CCP Committee and the provincial government established preventive and control agencies to organize and push the masses to proceed with prevention and control. At present, in areas where this disease is present, there is at least one person in every town who has been trained in its prevention and control. Summarization of experience, early discovery, and early treatment are being extended as well. A massive quantity of Vitamin C is applied clinically for its prevention and control and the results are relatively good. Related departments appointed Harbin Municipal Pharmaceutical Plant No 4 to produce this drug. Professor Yu Weihai [0060 4850 3352] of Harbin University of Medicine and the Institute of Keshan Disease Research under his leadership have carried out studies on its pathogenesis and prevention and control for many years and have written more than 100 papers on these subjects to provide powerful leadership in theoretical and practical studies of the disease. In the high incidence regions of the province, sodium selenite has been administered orally 1.3 million times for prevention and control. Additionally, as the standard of living and the physical health of the people continue to improve, the number of victims of this disease has decreased yearly. In 1978, the number of victims in the province was reduced to 1,056 from the 2,900 plus of the past. By the end of November 1980, the number was further reduced to 135 persons.

6248

CSO: 5400

NATIONWIDE PROGRESS MADE IN PREVENTION OF SCHISTOSOMIASIS

Beijing JIANKANG BAO in Chinese 1 Jan 81 p 2

[Text] In the past year, obvious results have been obtained in China's schistosomiasis prevention and control work. In the 12 provinces, cities, and autonomous regions, more than 70 million m² of snail-populated areas has been exterminated, and more than 390,000 victims have been treated. Based upon the long term, regular, and scientific characteristics of schistosomiasis prevention work, attention has been, in the past year, given to strengthening the establishment of organizations to improve the quality of prevention work. In those counties and cities where the disease has been basically eliminated, teams have been established to analyze the different conditions. New progress has been made in all aspects of the work. In many areas, taking related schistosomiasis elimination standards as a reference, surveys and inspections have been repeated to supplement and fulfill the weak links to push forward prevention and control work. In some areas, special teams have been organized to enlarge the area of snail inspection to discover some new snail-populated areas for timely treatment to eliminate potential harm. In the past two decades, about two-thirds of the original snail population areas, victims having been basically cured, and counties and cities where the disease has been basically eliminated have been accomplished [as published]. As the snails are exterminated and the victims cured, the appearance of the areas of this disease is greatly changed. For example, Suzhou District, which was originally a seriously affected region, has now become the highest grain production district of the country and the base contributing relatively greatly to commercial grains. After the plague god was cast off, the one county of Kunshan alone has been delivering to the state about 200 million jin of commercial grains every year. The areas of Dongtinghu District, Boyanghu District, Jiangnan Plain, West Sichuan Plain, etc. were all seriously affected regions in the past. Now they have all become important bases of commercial grains of China and are providing the state with large quantities of commercial grains every year. The disease situation of some areas where schistosomiasis has not been basically eliminated is also obviously improving.

With implementation of related documents concerning agriculture, the situation is good but a few new problems have also occurred, as well as some new difficulties. For example, with regard to areas where the production responsibility reaches the households it is relatively difficult to assign workers to snail-elimination work and to order victims to be treated. As the urban markets are opened, the number of those who engage in catching fish and shrimp has grown and the number of acute infections has increased also. On the basis of survey and study, new solutions to

these problems have been proposed in a number of areas. For example, Anhui Province adjusted its policies with respect to its prevention and control work and new rules have been formulated to take care of the problem of labor requirement for inspecting and exterminating snails. In the provinces of Jiangsu, Zhejiang, Sichuan, etc. in combination with the system of production rewards and responsibilities, the task of snail extermination has been assigned to production teams or work teams. Under the leadership and with the help of specialized schistosomiasis prevention teams, the masses have been mobilized to become positive in snail extermination work to accelerate the speed and improve the quality of the work.

The leadership team of schistosomiasis prevention and control of the Communist Party called a work conference most recently in Shanghai lasting 5 days. The work of the past year was reviewed and the task for 1981 was planned. The conference demands that the work of schistosomiasis prevention and control in the rural villages must be carried out in accordance with the actual conditions of each area to realize true results.

6248

CSO: 5400

CHINA CONDUCTS MASSIVE DIABETES SURVEY

Shanghai JIEFANG RIBAO in Chinese 21 Feb 81 p 1

[Text] Led by the Huashan Hospital of the First Medical College of Shanghai, the treatment and research units of 15 provinces and municipalities have cooperated over a 2-year period in carrying out a diabetes survey of 400,000 people nationwide. In addition, they have recently categorized China according to the incidence and distribution of diabetes, providing valuable data for the prevention and study of this disease. This is the first survey of such magnitude in China.

In the past there have been no surveys of the incidence or distribution of diabetes in our country, and the data needed to conduct such a study was lacking. In 1978, the Huashan Hospital, along with 11 affiliated medical treatment and research units carried out a diabetes survey involving 100,000 people in Shanghai. In October of 1979 at the First All-China Diabetes Research Conference held in Lanzhou, Huashan Hospital was designated the responsible unit to work with Beijing, Heilongjiang, and 12 other provinces and municipalities in selecting representative areas or groups and, using standardized methodology, criteria, records, and whole-group sampling, to carry out a survey of 300,000 people in 14 provinces and municipalities. In addition, they categorized the incidence of the disease according to region, nationality, occupation, age and sex.

Among the 300,000 people surveyed, the actual incidence of the disease was 0.61 percent. At the same time it became clear that there was no marked difference between males and females in the incidence of the disease. As for age, the rate climbed sharply after age 40 and peaked between 60 and 70. With respect to body weight, overweight persons of every age group had a clearly higher incidence of the disease than those of normal weight in every age group, further confirming that obesity in adults is the major factor contributing to diabetes.

As for occupation, the cadre groups had the highest incidence, while students and pre-school children had the lowest disease rate. As for differentiating among regions, it appears that the differences are related to living habits, living standards, and intensity of labor. At the same time it was discovered that China's diabetes rate is lower than that of Europe or the United States, which may be related to the living habits, diet and nutrition, racial group, heredity, intensity of labor, and economic level of the people of our country.

The data obtained from this large survey has attracted attention from diabetes specialists and epidemiologists around the world, who believe that it has reference value for the countries of the world in studying and fighting diabetes.

CSO: 5400

RABID DOG BITES TEENAGE BOY

Hong Kong THE SOUTH CHINA MORNING POST in English 28 Feb 81 p 7

[Text]

Rabies has struck again in Hongkong — a dog which bit a 14-year-old boy in Ta Kwa Ling was found yesterday to have the disease.

And a man was hit in the face by shotgun pellets yesterday as police shot stray dogs in Tuen Mun.

The rabid dog attack was on Chan Kwei-hin on Monday at a Ta Kwa Ling village which is within the infected area.

The animal was beaten to death by its owner later the same day and the carcass sent to the Medical and Health Department for examination.

Results of the test showed it was a rabid.

Officials from the Medical and Health Department immediately located the boy and took him to Sheung Shui Clinic where he was given a full course of injections.

Kwai-hin will be kept in the clinic for observation, but his condition yesterday was reported as satisfactory.

Yesterday's case was the second this month and the 17th since the outbreak began on October 4.

On February 12 a confirmed rabies case was reported. The rabid dog bit a nine-year-old girl at Lau Fao Shan Lower Village.

So far two people have died after being bitten by rabid dogs.

Dog control teams from the Agriculture and Fisheries Department spent most of yesterday in the Ta Kwa Ling area rounding up all unlicensed dogs.

Since October last year, about 91,000 dogs have been inoculated and another 57,704 eliminated throughout the Colony.

The Medical and Health Department also reported that a total of 779 people have received vaccination treatment for rabies.

In a rounding-up operation on stray dogs at Tuen Mun yesterday, a 50-year-old man was injured by pellets fired from a police shotgun.

The accident occurred at 11 am when a dog control team and two police constables from the Village Patrol Unit were searching the area at Lung Mun Street for stray dogs.

One of the policemen saw a stray wandering on the street in front of an open area. He took aim and fired at it.

The dog was killed, but pellets also hit a pedestrian, Mr Chin Chi-kam, who was about 200 metres away from the policeman.

Mr Chin was hurt on the face near his left eye. He was taken to Tuen Mun Clinic where he was treated and discharged.

BRIEFS

NEW RABIES VACCINE--Wuhan, February 8 (XINHUA)--A new variety of rabies vaccines, produced from cultures of baby hamster kidney cells, have been approved for production in China by the Ministry of Public Health after 15 years of experimentation and testing. Researchers at the Wuhan Vaccine and Serum Institute in central China began experimenting on the tissue culture vaccine in 1965 and in 1974 developed four forms of rabies vaccines for human use. These vaccines have gone into production in Wuhan, Lanzhou and Changchun, with annual output expected to be enough for 400,000 cases. Rabies is now prevalent in many parts of the world and a problem in some areas of China. A vaccine cultivated from sheep brain cells has been applied to cure the disease in many countries over the past century, but it has been known to damage the nervous system and even cause permanent disability or death. Tests have shown the new type of vaccine to be effective, safer, and also more convenient. One course of treatment requires only three to five injections, rather than at least 14 injections with the sheep brain variety. [Beijing XINHUA in English 0753 GMT 8 Feb 81]

C50: 5400

BRIEFS

MALARIA IN KAHATAGASDIGILIYA--There has been an outbreak of malaria in Kahatagasdigiiliya since December last year. A large number of patients have gone to the District Hospital, Kahatagasdigiiliya for treatment. (Text) [Colombo THE CEYLON DAILY NEWS in English 17 Feb 81 p 1]

CHOLERA DEATHS--Two deaths from cholera and four more new cases were reported from Polonnaruwa on 24 February. According to Health Ministry Secretary B.C. Perera final confirmation on the actual cause of these deaths had not yet been received by the ministry. However, he said every precaution was being taken to contain the disease and that the barricades at Manner cordoning it off as a diseased area would remain. [BK04121] Colombo SUN in English 25 Feb 81 p 1]

CHOLERA CLAIMS TWO VICTIMS IN GALEWELA--Cholera claimed its first two victims in Galewela, reports reaching Police Headquarters said yesterday. One of the persons died just before admission to hospital. A positive case and three suspected cases are at present warded at the Matale Hospital. Meanwhile the health staff at Galewela was strengthened by Matale Hospital authorities, following information, of the outbreak spreading in Galewela. (Text) [Colombo SUN in English 23 Feb 81 p 1]

CSO: 3400

SCIENTIFIC ADVANCES FIGHT WATERBORNE DISEASE

Kampala THE CITIZEN in English 10 Feb 81 pp 4, 5

[Text]

IN November last year, the UN International Drinking Water Supply and Sanitation Decade got underway, with the accent on providing water to the more than 2.4 billion people world-wide without it. But in the midst of the Sudan's rich, well-watered farmland, water is a killer which brings suffering to hard-pressed farmers and labourers. To stem the threat, the government is marshalling a broad development and health arsenal, unparalleled anywhere in the world. Not far from Khartoum, stretches the vast reaches of the Gezira, the largest farm under single management in the world. Lying in the fork of the Blue and White Niles, its two million acres of amazingly green, well-irrigated land is crisscrossed with innumerable canals.

The Gezira produces cotton, which brings in 60 per cent of the country's foreign exchange, wheat, sorghum, groundnuts, rice and other vegetables. The labour force of Gezira totals

more than 1.7 million settled inhabitants plus a half a million of seasonal labourers from the Sudan and neighbouring countries.

The area was created by a dam built along the Blue Nile in 1925. In 1966 the Roseires Dam was added which provided so much water, that it virtually eliminated the dry period on the farm lands. Along with the massive increase in water came the deadly disease schistosomiasis and other water-borne illnesses.

Today 50 to 70 per cent of the people of the Gezira suffer from one of the world's heaviest infestations of the snail-carried fatal disease. In addition, malaria plagues the region with outbreaks so bad that they have interfered with crop harvesting. Also water-related diarrhoeal diseases particularly threaten the children.

To meet the massive threat, the Sudan Government has developed the Blue Nile Health Project, the world's first attempt at controlling all local water-borne diseases, simulta-

neously, using every means available and in use in any part of the world. The accent is on health care and natural means of disease control and prevention.

Among the most novel preventives is the use of three species of fish. The Chinese grass-carp eats grasses and weeds, reducing the vegetation that provides shelter for mosquito larvae and food for snails.

The Gambusia fish eats mosquito eggs. And the mudfish laria-carrying mosquito feeds on the schistosomiasis-carrying snails that grow along the canals. The mudfish even snaps at people's legs and fingers, which hopefully will discourage the children from going near the infected waters.

Suppressing the diseases is particularly difficult because water is used for everything according to one of the local development workers. With no shade in the fields, people eagerly plunge into the canals to refresh themselves despite the risks of infection. People also defecate and urinate near the canals, wash in the water, then miles downstream people will fetch and consume the same water.

"The schistosomiasis 'mansoni' we've seen here is the worst I've ever seen," said Dr William Jobin, a World Health Organization sanitary engineer on the project. "We use the egg intensity as a measure, that means we measure the number of schistosome eggs per gramme of feces in an infected person.

In Puerto Rico, its 10-20 eggs programmes so mild there are hardly any symptoms. Here in the Gezira, its 500 to a few thousand eggs per gramme and that's fatal."

Not surprisingly, the few hospitals in the region are taxed with The tragically diseased, many of them incurably ill. At Medani Civil Hospital, the sick are crowded into small wards, two in each narrow bed, lying head to toe. Some have enormous swollen abdomens, and they struggle to breathe because of the fluid pressing on their lungs.

"Advanced liver disease", explained a doctor in attendance, "probably due to intestinal schistosomiasis. Other factors play a role here like malnutrition and sometimes undernutrition associated with repeated attacks of malaria. Patients suffering from intestinal schistosomiasis can suddenly have massive haemorrhages and many even drop dead in the fields. Some are brought in, but they often need more blood than the hospital can provide.

"It really is a tragedy that the disease has fallen upon the working people," said Dr Jobin. "Still, there is a consciousness here of the importance of these people's health needs, and profits from the sales of agricultural produce are being reinvested to control the diseases. This gives a great deal of hope to this project."

Given the extent and intensity of the suffering, the government has set up the Blue Nile Project as a ten-

year enterprise costing is more than 90 million US dollars or 68 per cent of the total cost of 135 million US dollars.

The scheme includes a study area where information on disease formation, transmission and the like will be collected for the first 18 months of the project. Then the comprehensive, many-sided strategy to prevent control and eradicate the disease will be tested before being applied throughout the farmlands in 1984.

In the village of Abu Ushar researchers are studying the life-cycles of the snails and the disease-parasites that they carry to find out how they develop and get to the water. The aim is to find a way to interrupt the cycle and if its not too costly, apply it on a wide-scale in the infected areas. The main objective of the project is to rely on long-term measures of prevention that are easy to maintain, not destructive of the agricultural and traditional environment, and do not cost a lot of foreign exchange.

This means providing clean water supplies and latrines that don't drain into the canals, providing screens to protect food, kitchens

and latrines from flies and mosquitoes, improving health services with better screening and drug treatment, the careful use of chemicals but only where absolutely necessary, rehydration salts for diarrhoea, improved irrigation and land use methods to discourage pests, cleaning up stagnant pools and other snail and mosquito breeding grounds, building footbridges across canals and erecting barriers to limit human contact with infected waters.

But many project workers agree that education is one of the most important elements. Village health committees are being organised to effect community participation in health education programmes to change attitudes and behaviour.

For long-term results depend largely on whether the people of the Gezira are willing to make basic changes in their way of life to ensure their health. Yet the government must as well continue to expand its ability to clean up the water to keep the people from risking disease, out of the pressure for the need for water, any water, to survive.

APB Feature

HEALTH OFFICIALS CLARIFY HEPATITIS VACCINATION CAMPAIGN

Taipei THE CHINA POST in English 2 Mar 81 p 12

[Text]

Three-fourths of the 200 million type-B hepatitis virus carriers in the world are Chinese, and 15-20 percent of the total population in this country are carriers, the highest record in the world, according to the National Health Administration.

The administration presented a report on the disease and examined the quality and safety of the antigen vaccine injection publicly yesterday.

Prevention is the most effective way to avoid the disease and receiving a vaccine injection is presently the only prophylactic method known, the NHA said. All those who may be infected with the disease should receive a vaccine injection, the administration added.

Isolating carriers from those who are easily infected does not really help prevent the latter from getting hepatitis, nor in controlling the disease effectively, the NHA said. Type-B hepatitis may be found in the urine, stools, blood, or sperm of a carrier. A mother can also pass the virus on to her baby while breast feeding.

People infected with the

disease in their childhood are more likely to become carriers than those who got it as an adult. The NHA pointed out, 90-95 Chinese are infected with type-B hepatitis in their childhood, and rare adults are immune to the disease. In this country, about 2-3 million people of different circles are carriers.

The NHA said 25-50 percent will die of cirrhosis or hepatocarcinoma, while only one percent of non-carrier patients will die of these two diseases. If people receive injections in their childhood, they are less prone to become carriers and consequently will not be so easily infected with the fatal cirrhosis or hepatocarcinoma.

The vaccine to be used in Taiwan has been conclusively determined to be safe,

but its efficacy requires more examination, the administration said. Since the percentage of hepatitis carriers in this country is the highest in the world, and children here need the injection more urgently than any other country, it seems only logical that the efficacy of the vaccine be tested on children in this country.

The vaccine test currently being carried out among kindergarten children in Taipei aims to examine its efficacy. Tests on the safety of the vaccine have been completed in the United States, the NHA reaffirmed. If children in the United States were seriously threatened by the disease as children in this country, similar tests would also be undertaken there, the NHA noted.

BRIEFS

MEASLES INCIDENCE, PREVENTIVE MEASURES—Measles was yesterday ranked "top killer" among causes of child deaths in hospitals today. This makes an alarming contrast with 1969 figures when measles accounted for only three per cent of all child deaths, the Minister for Health, Dr. Aaron Chiduo, disclosed in Dar es Salaam yesterday. Launching a combined Annual general meeting and scientific conference of the Paediatric Association of Tanzania at Muhimbili Medical Centre's Central Pathology Laboratory, the Minister admitted that measles incidence had reached "alarming proportions". In 1977, he said, the disease accounted for 15 per cent of all child deaths recorded in hospitals. The Minister said there were several factors behind this unusually high incidence of measles infection, but pinpointed poor housing in overcrowded places as favouring the spread of this communicable disease. The Government, he said, had embarked on an ambitious project to preserve measles vaccines with assistance from the Danish International Development Agency (DANIDA). It is hoped that cold storage facilities would help retain vaccine potency. [Text] [Dar es Salaam DAILY NEWS in English 4 Mar 81 p 1]

CSO: 5400

SOME EPIDEMIOLOGICAL FINDINGS ABOUT CHOLERA REPORTED

Hanoi Y HOC THUC HANH in Vietnamese No 5, Sep-Oct 80 pp 21-32

[Article by Prof. Nguyen Tang Am: "Epidemiology of Cholera"]

[Excerpts] In the period of 30 years from 1945 to 1975, in the northern part of our country cholera was repelled, but in South Vietnam during the American imperialists' aggressive war the disease was still rampant; the 7th worldwide great cholera epidemic directly affected it and in 1964 caused a serious epidemic that spread to all South Vietnamese provinces from the Kampuchean border to Thua Thien and Quang Tri adjacent to the demarcation line and caused 821 deaths among 20,009 cases.

After the south had been totally liberated and the country reunified, with circulation among provinces getting more developed everyday, there was a constant threat of cholera spreading, which made the prevention and control of the disease an urgent need for the public health sector.

The *Vibrio* NAG (noncholera nonagglutinating vibrio) was normally isolated from outside environment: sewer, feces, privies, saline water in coastal areas and patients' feces; at the end of the epidemic, in Tien Giang (April 1980) and Phu Khanh (September 1979), it was isolated from river water.

In the cholera epidemic in Astrakhan (1969) the patients were classified as follows: stage 1: 56 percent; stage 2: 18.8 percent; stage 3: 8.2 percent; and stage 4: 17 percent.

In Vietnam, among 365 patients in Village L. L., T.N. District (June-July 1978), who were closely studied the distribution of the forms of cholera was as follows:

- Mild form (equivalent to stage 1): 251 patients, or 68.7 percent.
- Intermediate form (equivalent to stage 2): 52 patients, or 14.2 percent.
- Acute form (equivalent to stage 3 and stage 4): 62 patients, or 17.1 percent.

In the epidemic in Phu Khanh (August-October 1979), the mild form accounted for 10 percent; the intermediate form, 36.4 percent; and the acute form, 53.6 percent.

In our country, the percentages of healthy people carrying the cholera bacteria among the people who had contacts with the pockets of contagion were found as follows: 3 percent, in 1975 in the southern provinces and cities (79 positive tests among 2,799 persons under investigation); 2.8 percent, in 1976 in Ho Chi Minh City (37 positive tests among 1,294 persons); 2.61 percent, in 1980 in Tien Giang.

In recent years, in the cholera epidemics in our country the El Tor vibrios were also isolated from pond and ditch water (Village L. L., T. N. District, 1976) and river water -- Red River in N. City (September 1979) and H. River in H. City (April 1980). The river water was contaminated because of the following practical reasons: people moved their bowels into rivers and canals (it was commonplace in the Mekong delta provinces); the clothes of cholera patients and carriers of cholera bacteria were washed in rivers, lakes and ponds; boat and ferry passengers defecated right into rivers; water from city sewers, including waste water from hospitals, was dumped directly into rivers without flowing through any filtering systems.

A fact that deserved attention was that some marine products had the capacity to carry the causal agent of cholera: in Malaysia (1971) the El Tor vibrios were isolated from shrimp and oysters; in Nauru Island (in the Pacific) the Padas fish were confirmed as a carrier of the disease; in the coastal provinces of our country, where the people liked to eat various kinds of shrimp and oyster pastes, in the epidemic in Nghia Binh (1980) the epidemic control station of the province succeeded in isolating the El Tor vibrios from shrimp paste.

In an infected area, the marketplace was an important contact point that made the epidemic spread from one village to many villages through the movement of buyers and sellers. The cholera epidemic that broke out in An Giang and Dong Thap in December 1979 was related to the series of flea markets that had popped up in an area 15 kilometers long in An Giang in November 1979 and attracted everyday hundreds of thousands of people from infected areas inside and outside of the country.

The recent cholera epidemic, in 1979-1980, was spread to a number of provinces and cities in the country in the manner of either a relay run or leapfrogging.

In May 1979 the cholera epidemic was confirmed in Ta Keo; in June, it appeared here and there and then broke out in separate periods in a number of provinces on the banks of Tien and Hau Rivers; in August 1979, the epidemic skipped some provinces and leapfrogged to Phu Khanh, and in April 1980 it spread to Thua Thien in the leapfrogging manner.

The reason the causal agent of the disease was able to invade the bodies of healthy people was that there still existed among the people the following habits:

- To eat raw vegetables, raw fish, shrimp paste and other kinds of pastes; to eat uncovered foods in markets and on sidewalks bought from vendors unprotected by preventive inoculation.

- To drink tap water, tea mixed with cold water, or ice made of untreated water, and beverages sold freely without observation of sanitary standards.

- To invite too many relatives and friends to funeral services. For example, in the epidemic in H. H. District in May 1980, the first patient, a 72-years-old woman in T. H. Village who had contracted the disease from a healthy bacteria-carrying person in QN-DN, later died; her family organized a big funeral, invited about 300 people from different villages to attend and served meals to them for 2 consecutive days; a few days later, 87 persons from the group that had attended the funeral contracted cholera, which then spread as an epidemic to 4 villages and the entire H. H. District, with a total of 123 persons contracting the disease, 3 dead and 20 cases of positive tests (Notice No 2033/BYT-VS of 31 May 1980).

3.5 Nature, time and scope of the epidemic.

In the epidemic in T. G. Province (April 1980), the distribution of patients according to age groups was as follows:

Less than 1 year	4.2 percent	
1-4 years of age	18.1	"
5-14	23.7	"
15-24	15.3	"
25-34	12	"
35-44	6.6	"
45-54	6.4	"
55-64	6.5	"
65-74	4.4	"
Over 75	<u>2.8</u>	"
Total	100	"

Male and female patients were numerically equal.

The death rate recorded was as follows:

- The 1976 epidemic in T. N. District: L. L. Village 1.92 percent of total number of cases; A. L. Village, 2.51 percent.

- The 1979 epidemic: P. K. Province 3.1 percent; T. H. Province 7.6 percent.

- The 1980 epidemic: B. T. T. Province 1.9 percent; T. G. Province 5.3 percent; H. N. N. Province 2 percent.

The death rate among patients who had been transported away in the early hours to get treatment was less than 1 percent, but in a number of remote villages where communications were difficult and first aid was not available the death rate was over 15 percent.

As compared with other infectious intestinal diseases, cholera spread most quickly and widely because of the following reasons: the many sources of the disease included typical and atypical patients and large numbers of healthy bacteria-carrying people; infection was caused by many combined factors, such as foods, drinks, daily activities, contacts and high susceptibility of individuals to the disease.

3.5.1 Rate of development of epidemic: the epidemic would develop at a very fast rate. For instance, in the epidemic in P.K. Province (1979), the disease started from a subward of N. City and spread to 5 subwards within a week and to 24 out of 25 subwards of the city after 2 weeks; at the same time, the epidemic was also spreading to districts -- in a week's time, 4 districts recorded cases of cholera and after 2 weeks the epidemic broke out in 6 districts of P.K. Province.

In the province as a whole, the epidemic reached its peak in the 3rd week, began to taper off at the end of the 4th week and continued to taper off, with the "epidemic tail" lasting for 3-4 weeks (fig. 1).

In the city that used contaminated tap water (for instance, M. T. City in April 1980) the epidemic spread more quickly, with the number of patients sharply increasing from the 4th day on and the epidemic reaching its peak in the 2nd week.

3.5.2 Time of outbreak of epidemic. In the southern provinces an observation of cholera epidemics from 1964 until the recent years revealed that scattered cases occurred all year, but development of the disease to epidemic level took place in certain months and was linked with the following factors:

a. The weather factor. At the end of the dry season (March, April and May), as water in wells and stored in tanks of individual families began to be used up, saline water was rising and water in rivers and canals became polluted, the people had to use all sources of water supply to cook and to satisfy their daily needs, including water from canals, ponds and ditches; as a result, the conditions were favorable for the disease to develop vigorously in those months. In the year of prolonged drought, for instance in P.K. and T.H. (in the central part of the country) in 1979, with no rains as late as in July and August, as the people had water supply problems, the epidemic broke out in August (P.K.) and September (T.H.).

b. People's movement factor. This factor could lead to an outbreak of the disease in any month. An example: the series of flea markets that came into being

at the border of An Giang Province in November 1979 attracted everyday tens of thousands of people from different localities (including the localities that had registered cholera cases) and caused the outbreak of a cholera epidemic in A.G. and the nearby provinces like D. T. and H. G.

The duration of an epidemic in a province or city was 2-3 months. For instance, as the cholera epidemics in the northern provinces and cities in 1976 were closely observed, the average duration of the epidemic in a province was 62 days, with the longest one being 92 days and the shortest just a few days (the city of H. made an all-out effort to fight the epidemic right from the detection of the first cases).

The average duration of the cholera epidemics in the 5 central provinces was 68 days, the longest one being 111 days (in T. H. Province) and the shortest 21 days (in QN-DN Province). That duration was shorter wherever sanitary measures had been taken relatively well and the guidance over epidemic control was carried out in an orderly manner.

If the duration of epidemics was taken into consideration on a national basis, the epidemics in the southern provinces and cities in 1964 lasted for more than 6 months, and the 1976 epidemics in the northern provinces and cities lasted for nearly 4 months (117 days); however, had the measures to control the epidemics not been taken in a firm and total manner the epidemics could have become more complicated and lasted much longer.

3.5.3 Scope of epidemics. In our country the following circumstances did take place in our provinces and cities:

- As cholera broke out and the first patients were detected early, total action was aimed at containing it and dealing with it fully and, as a result, the disease did not have time enough to become an epidemic (for instance, that was what happened in PTC Village, Phuoc Van District, in Nghia Binh Province in September 1979).
- Small-scale epidemics broke out, with a few dozens of cases (example: DN Province in 1979, QH-DN Province in May 1980).
- Intermediate-scale (hundreds of people contracted the disease) and large-scale epidemics broke out, with more or less than 1,000 people getting infected in the outbreak (example: the epidemics in CL, HG, BTT provinces, etc.).
- In addition, the disease appeared in scattered cases, with a few patients each month, to be followed by outbreak of epidemics, as what happened in the provinces of MH, HG, etc.; or the disease was spotted here and there for quite some time but did not develop into an epidemic (example: in City X in the south, thanks to good environmental sanitation and effective epidemic control inside the city,

the disease occurred only in the rural districts, with a number of new patients each month, for those were the districts that were located on river banks, along circulation routes and bordering on the areas where the epidemic was active).

3.6 Key areas. Our experience in observing cholera epidemics in the past years showed that some areas were normally threatened by epidemics and where a cholera epidemic would break out first:

- The coastal districts from north to south, particularly the districts where there were no privies built in compliance with sanitary standards and where the people still maintained the habit of eating raw things (raw vegetables, raw fish, etc.) and drinking tap water; it was easy for an epidemic to spread to such districts -- for instance, the 1976 epidemic first appeared in TN District and then spread to other coastal districts in such provinces as QN, HNN, TH, NT, etc.; the 1979 epidemic quickly spread to the coastal districts in the central part of the country.

- The districts, subwards and villages located along the rivers and canals in the Mekong delta, where the population was large, the habit of defecating into rivers and canals was still common and the circulation density was high; whenever the sources of water were polluted, it was easy for an epidemic to break out; the water in Tien and Hau Rivers flowing from Thailand and Kampuchea where epidemics were still active could easily get contaminated.

- The communications terminals -- bus terminals, ports and railroad stations -- where large numbers of people came and went away, including healthy people who also carried cholera bacteria, and detection was difficult.

Consequently, in the prevention and control of cholera, the epidemiological control measures, preventive inoculation, cleaning of environmental conditions, propaganda and teaching of sanitation and hygiene, etc. must be properly carried out first in the above-mentioned key areas.

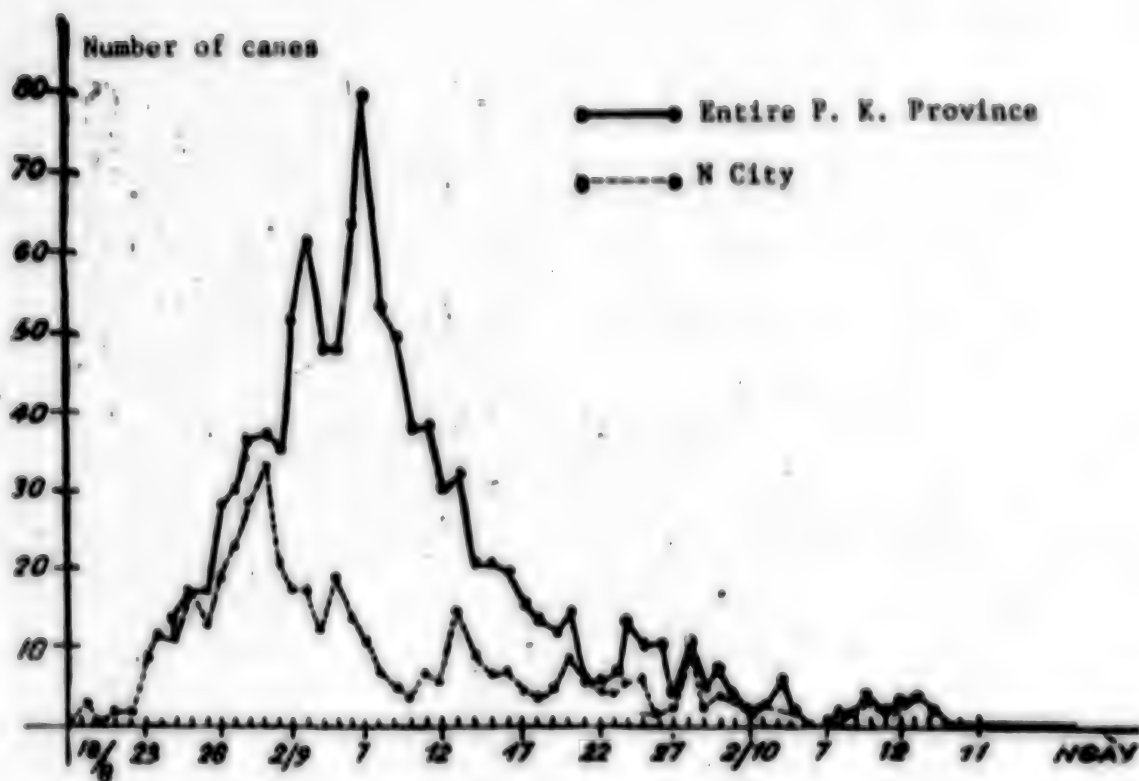


Figure 1

Development of cholera epidemic in P. K. Province and N City (1979)

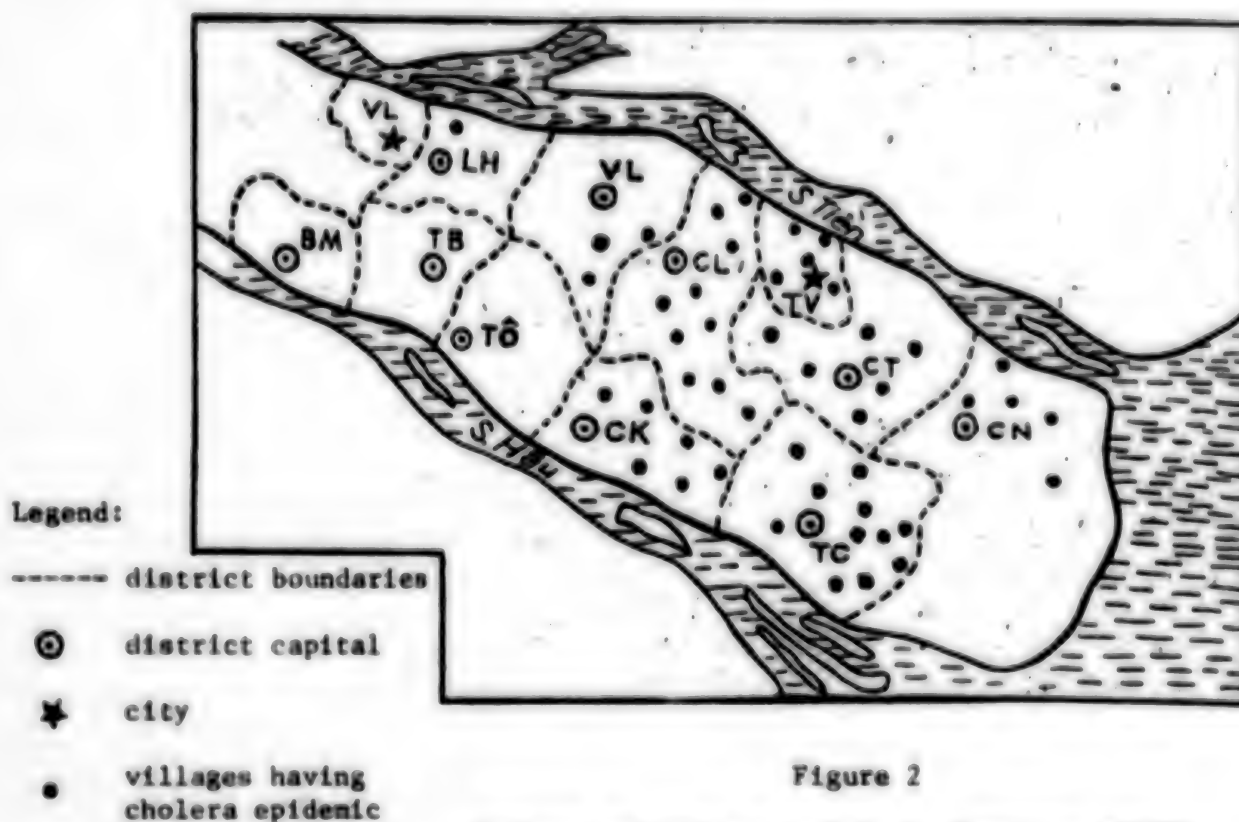


Figure 2

Cholera epidemic map of C. L. Province (1980)

BRIEFS

DIARRHEA AMONG NEWBORN BABIES--In the first months of 1979, the pediatrics department of the Institute for the Protection of Children's Health accepted for treatment many cases of dehydration-inducing diarrhea among newborn babies, with relatively high mortality rate -- 31/93 (33 percent). Therefore, in October and November 1979 we suggested a study of the clinical characteristics, tests and causative agent of dehydration-inducing diarrhea of infants, for the purpose of improving the method of treatment and thus lowering the death rate. [Excerpt] [Hanoi Y HOC THUC HANH in Vietnamese No 5, Sep-Oct 80 p 36] 5598

CSO: 5400

MEASLES CLAIMS THREE LIVES

Lusaka TIMES OF ZAMBIA in English 27 Feb 81 p 2

[Text]

THREE children died of measles within seven days at Chawa rural health centre in Kalomo. Chief Nyawa has reported.

The chief made the report to the district executive secretary Mr Remmy Shangobeka on Wednesday when he asked medical authorities to rush drugs to the rural health centre.

Mr Shangobeka promised that he would approach the ministry on the matter.

District health inspector Mr Wilfred Duka could neither confirm nor deny the deaths but admitted that the health centre has had no drugs "for

some time now."

He said parents of sick children had started using herbs to cure the disease because of the drugs shortage.

Last year, several people died of measles in the same area because of lack of medicine, health centre officer, Mr Orford Hamilings had said then.

A student at Livingstone's Hillcrest Secondary School has died of measles this week. Southern Province chief education officer, Mr Henderson Simwanza confirmed, but declined to give details. The boy was buried on Tuesday.

CSO: 3400

BRIEFS

OUTBREAK OF FOOT-AND-MOUTH DISEASE--Lisbon, Feb. 23 (AFP)--Portugal is praying for rain because a five-month old drought has drastically cut hydro-electric supplies and undermined agricultural output. Farmers have also been hit by a second plague--an outbreak of foot and mouth disease. Prime Minister Francisco Pinto Balsemão said recently that the drought situation was very worrying but not catastrophic, but the government has had to take several emergency measures to help the farming and energy sectors. Farmers in the north have suffered most because there drought has been accompanied by an unusually hard frost. Portuguese experts expect that overall olive oil production this year will fall by 30 percent, wine production by 50 percent and potatoes by 70 percent. [Text] [Taipei THE CHINA POST in English 24 Feb 81 p 3]

ANIMALS ORDERED KILLED--Vienna, Austria, March 4 (AP)--Austrian officials said Tuesday they had ordered the killing of 1,800 farm animals in lower Austria to prevent the spread of hoof-and-mouth disease. All public events in the districts surrounding the towns of St. Poelten, Tulin and Krems were cancelled in a further effort to avoid spreading the disease. Automobiles and people entering or leaving the two villages where cases of disease were confirmed were being required to drive or walk over special disinfectant carpets. Veterinarians said the first cases involved five pigs in the village of Kapelln, near St. Poelten. The nearby village of Weissenkirchen was also placed under quarantine as a safeguard. [Text] [Taipei THE CHINA POST in English 5 Mar 81 p 3]

CSO: 5400

CATTLE DEATHS CAUSED BY HEPATOTOXIC FUNGUS

Production Down

Buenos Aires CLARIN in Spanish 19 Jan 81 p 13

[Text] A new disease brought on by a hepatotoxic fungus has caused decreased production and the death of a large amount of livestock in cattle ranches in the districts of Chivilcoy, 25 de Mayo, Sulpacha and Alberdi, in Buenos Aires Province, according to information provided yesterday by the National Center for Agriculture and Livestock Research of INTA [National Institute of Agriculture and Livestock Technology].

The disease began to be noticed between the months of May and July last year and it attacked between 30 percent and 90 percent of the livestock, with the Dutch-Argentine and Hereford breeds being most affected, on whose hides white areas predominate.

Although no figures concerning the decrease in production were issued, some experts maintain that the losses are considerable, because the livestock affected shows progressive deterioration in its general state, as well as loss of weight, leading in some cases even to prostration, a weakened condition, and ultimately to death.

The characteristic symptoms of this disease are skin damage with swelling and loosening of the epidermis, and the formation of scabs, particularly on white hide areas, with the greatest severity noted around the eyes, lips and ears.

According to reports from INTA's Pathology Department, where the studies were conducted, this disease, unknown until now in this country, has been known particularly in New Zealand, where it is called facial eczema. It has also affected production in other countries such as Australia, South Africa, Brazil and Uruguay.

The appearance of this infection is related to climatic changes in the area, which facilitated the multiplication of the hepatotoxic fungus.

The map shows the areas affected by the new infection.



Key: (1) Federal Capital
(2) Buenos Aires Province

Further Details

Buenos Aires LA PRENSA in Spanish 25 Jan 81 Sec 3 p 7

[Text] The National Institute of Agriculture and Livestock Technology (INTA) at Castelar has warned about the appearance of new cases of a disease discovered last year in cattle at various establishments located in the districts of Chivilcoy, 25 de Mayo, Suipacha and Alberdi, in Buenos Aires Province.

According to one study conducted by the Department of Animal Pathology of the National Center for Agriculture and Livestock Research of INTA in that district, the disease was observed between the months of May and July 1980, with an incidence varying between 30 percent and 90 percent of the livestock, and it causes great loss in the production of meat and milk, although there were few fatalities.

The Disease

As for the symptoms, the study indicates that the disease is characterized by the presence of visible damage to the hide, with swellings and loosening of the

epidermis, and the formation of scabs on white areas of the hide, which are particularly severe around the eyes, lips and ears. In some cases one notes erosions and areas of bleeding, with purulent mucus secretions of the nose and eyes. The animals display a progressive loss of appetite, general deterioration, as well as loss of weight and production of milk, even reaching the point of prostration, extreme weakness and death.

The livestock that is most seriously affected in terms of percentages of illness are the breeds with the greatest amount of white hide areas, notably the Dutch-Argentine and Hereford breeds, with a fewer number of cases involving the Aberdeen Angus and Shorthorn cattle.

The majority of the cases were noted in ranches having terrain covered with flax remains, cultivated meadows with wheat and sunflower remains, and fields in their natural state. As a common denominator, in all cases it was possible to observe an abundance of dead vegetation on which parasitic fungus thrived.

Recognized Disease

This disease is produced by the presence of a fungus recognized as being hepatotoxic for ovine and bovine herds, which is called *Pithomyces chartarum*, and contains a toxin known as sporidesmin, which is absorbed through the portal vein, affecting the liver.

Consequently, the INTA Office in Castelar points out, there is a cumulative effect due to photodynamic toxins entering the bloodstream, resulting in photosensitivity of varying degrees, weakness, and, in some cases, death.

It has been observed in other countries in the world, with characteristics similar to those in this country, especially in New Zealand, Australia, South Africa, Brazil and Uruguay.

In conclusion, it warns that the finding of this fungus in the Province of Buenos Aires requires vigilance for the possible appearance of new cases, especially when favorable climatic conditions of heat and humidity prevail.

The presence of dead vegetable matter should be eliminated because it contributes to increasing to a dangerous level the amount of spores present, causing massive quantities of clinical cases of photosensitivity of hepatic origin.

9661

CSO: 3400

BRIEFS

BEE DISEASE--As a consequence of an epidemic and of new findings pertaining to the bee viruses, the state veterinary authority has drawn the attention of beekeepers, carrying out transfers of beehives, to their duty to present samples of honey by 25 March 1981 to the appropriate veterinary authorities in the permanent locations of the beehives. Without proper control of honey, transfers of beehives will not be permitted. [Prague RUDE PRAVO in Czech 10 Mar 81 p 2 AU]

CSO: 5400

BRIEFS

FOOT-AND-MOUTH DISEASE ALERT--Austrian veterinary officials have reported an outbreak of hoof and mouth disease in the St Pölten vicinity, 60 kilometers from Vienna. Measures required for eliminating the epidemic have been taken: Up to Thursday, 5 March, the slaughter of 2,000 animals, including hogs, cattle and sheep had been ordered in Lower Austria. Hungarian veterinary authorities have advised large farms and private livestock raisers with animals susceptible to the disease to pay special attention to their animals and forbid foreign visitors access to areas where such animals are kept. The necessary preventive instructions have been issued by country veterinary authorities. Vehicles bearing Austrian animals and products entering countries adjacent to Austria must be disinfected. As of 4 March, Czechoslovakia has suspended imports of meat and milk as well as their transshipment at Austrian border crossings for an indefinite period. Austria fears that Italy will take similar steps. So far, it has been impossible to establish the source of the virus, but specialists are virtually certain that it originated in the Far East, possibly India. The cattle show scheduled for this spring in Vienna has been cancelled. [Budapest NEPSZABADSAG in Hungarian 6 Mar 81 p 8 WA]

CSO: 5400

ISRAEL

BRIEFS

RABID FOXES FOUND--Rabid foxes were recently found near Ofra, Ramallah and Ma'aleh Adumim near Jerusalem. [Text] [Jerusalem THE JERUSALEM POST in English 23 Feb 81 p 2]

CSO: 5400

FEARS OF FOOT-AND-MOUTH DISEASE OUTBREAK PROVE UNFOUNDED

Pig Farm Affected

Wellington THE EVENING POST in English 12 Feb 81 p 1

[Excerpts] Emergency precautions against the dreaded foot-and-mouth disease were swiftly applied yesterday when a veterinarian reported an exotic disease among pigs on a Timaru farm.

The outbreak of such a disease was confirmed this morning by the Minister of Agriculture at a special press conference, but there is no confirmation yet that it is actually foot-and-mouth.

All countries where New Zealand meat is marketed have been informed of the possibility.

Should this be confirmed, it would be a blow of almost

unimaginable proportions to New Zealand's economy through the loss for an indefinite period of much of her export earnings and the loss of the prized reputation for animal health that has been the jealously guarded basis for much of our overseas selling.

Announcement of the outbreak was made this morning by the Deputy Prime Minister and Minister of Agriculture, Mr MacIntyre,

flanked by agriculture ministry officials, at a special press conference.

Mr MacIntyre said the outbreak was confirmed yesterday by officers of the animal health division of the ministry, after it had been reported by a local veterinarian, Mr John Duncan. He said it would not be possible to determine the cause specifically until material had been examined at the World Reference Laboratory

Animal Viruses Research Institute, at Pirbright, in Britain.

"Samples have been taken and will be on a direct flight to the Pirbright laboratory this evening," he said.

Diagnosis would take a minimum of 48 hours after arrival.

"Final diagnosis might take longer if, as we hope, the initial tests prove negative."

Quarantine Imposed

Auckland THE NEW ZEALAND HERALD in English 13 Feb 81 p 1

[Excerpts] Timaru--A 50-kilometre radius around the South Canterbury town of Temuka has been battened down with roadblocks.

At the heart of the area Ministry of Agriculture and Fisheries veterinarians were last night supervising the shooting and burning of about 120 pigs on the small farm of Mr E. G. Dennis.

The Dennis farm, of about 100 acres, lies down a quiet country road at Winchester, near Temuka.

It is now completely sealed off from the outside world.

Late yesterday ministry veterinarians were arriving from all over New Zealand

to help with a close inspection of 90 farms within a 3-kilometre radius of the property.

Sixty vets and livestock officers are on patrol in the area and altogether 350 properties are being inspected.

A local harbour board cleaning unit is being used to clean and disinfect vehicles which have carried stock.

The disease alert area has been shifted north by half a

mile on the southern boundary to allow the Pareora freighting works to receive stock from the south.

Inquiries have eliminated the works as the one at which stock from the suspect farm had been killed.

In Place

More than 100 police were being moved in from other parts of New Zealand to help to man the 12 roadblocks on the outer perimeter of the

larger control area.

The roadblocks will remain in place until the ministry is sure that the outbreak is not foot and mouth disease.

All traffic passing through or leaving the area will be stopped, inspected, driven through a disinfectant bath and sprayed underneath.

Stock movement out of the 50-kilometre control area is banned and trucks which have carried stock cannot leave without being steam-

cleaned and given a bill of cleanliness by the ministry.

Mr Gordon Schwarz, the senior veterinarian controlling the emergency from a makeshift headquarters in the Army Hall in Timaru, left no doubt last night about the seriousness with which the suspected disease outbreak was being treated.

He said the ministry had been notified late on Tuesday night after Mr Dennis had called his veterinarian, having noticed blisters on some of the pigs.

After inspection on Wednesday morning the ministry immediately placed the farm under complete quarantine.

Mr Schwarz said the animals infected were about 28 pigs in one pen.

Virtually all of them had blisters on their snouts and on their feet, he said.

Such symptoms were typical of foot and mouth disease or the disease of pigs known as swine vesicular disease.

Other Causes

The outward symptoms of the two diseases were indistinguishable.

"We suspect it is a vesicular (blister) producing disease of some sort but it

could be other causes," he said.

"Until we find out what it is the farm will remain completely closed."

The Dennis family would have to get a permit to leave the property and that would not be granted if the veterinarian on duty at the farm suspected there was the slightest risk attached.

Inspect

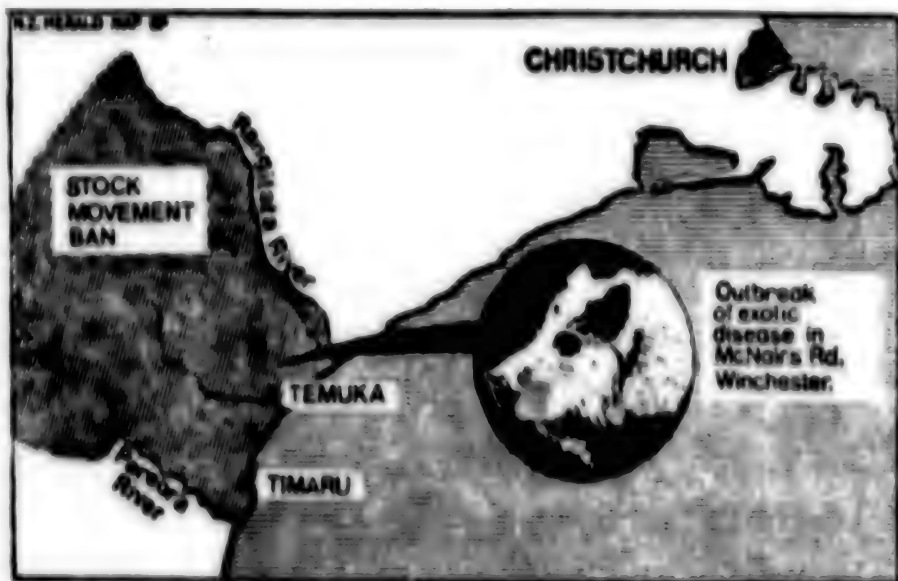
Mr Schwarz said neighbouring farms bounding the Dennis farm had been in-

spected but no sign of any problem had been found.

A team of veterinarians has already started to inspect farms within a three-kilometre radius of the Dennis property.

The mixed farming area contains most types of animals susceptible to foot and mouth disease including cattle, sheep, goats, deer and pigs.

Other ministry men will turn their attention today to tracing possible sources of the infection.



The Dennis pigery is a "garbage" pigery. That means it takes scraps from local restaurants and hotels for pig food.

Ten other "garbage" pigeries in the 30-kilometre control area have also been inspected and have so far shown no problems.

Stock Movements Banned

Auckland THE NEW ZEALAND HERALD in English 13 Feb 81 p 1

[Excerpt]

Meanwhile, the movement of animals in and out of the South Island has been suspended.

The ban includes racehorses, greyhounds and deer as well as farm stock.

The ministry's acting director of animal health, Mr R Salisbury, said that stock movement would be stopped pending diagnosis of the suspected exotic disease outbreak.

All livestock movement in South Canterbury has also been halted. The emergency

action is based on long-established plans designed to cordon off the area and contain the infection.

All Pork

A total ban was also imposed on all meat shipments through South Canterbury slaughterhouses today.

What began in the morning as a ban on all movements of pigmeat, was expanded in the afternoon to embrace all meat products and livestock.

A total ban on sales of all pork and pork products is in force throughout South

Canterbury.

Pig industry sources said the ban placed on the sale of pork was not related to dangers of human consumption of pig meat but was intended to ensure that pig meat and pork bones were not thrown out as garbage to become possible sources for the spread of the infection.

The ban on the movement of animals out of the control area around Temuka affects all cloven-footed animals such as cattle, pigs,

sheep, goats and deer.

But racehorses may be allowed to leave the area for race meetings, provided they have a ministry permit. Permission may depend partly on which part of the control area they come from.

The pigs being slaughtered on the farm are having to be burned because the water table on the flat countryside makes the farm unsuitable for burial.

Australia Bans Animals

Auckland THE NEW ZEALAND HERALD in English 13 Feb 81 p 1

[Text] Australia has placed temporary bans on the import of animals and animal products from New Zealand until the foot and mouth scare on a Temuka pig farm is cleared up.

The American reaction has been to wait and see.

Meanwhile, the Ministry of Agriculture and Fisheries has voluntarily banned all live animal exports from New Zealand but meat exports continue to leave the country.

Quarantine officials in Canberra said they believed it was extremely unlikely that the suspected vesicular disease would turn out to be foot and mouth, but the restrictions would apply until a firm diagnosis was received.

Mr Kevin Doyle, an assistant director-general in the

Department of Health in charge of the animal quarantine branch, said that animals and animal products destined for Australia would be held in New Zealand until test results were received from Britain.

Racehorses

The bans cover meat, sheep and goats, cattle and pigs and horses, but will not apply to domestic pets such as cats and dogs.

New Zealand exported \$18 million worth of live animals and meat products to Australia last year.

Racehorses made up most of that figure—1900 worth \$12.5 million. Live cattle and sheep contributed about \$1.5 million.

Mr Doyle said Australia would also upgrade checks on passengers and their baggage in line with the treatment of those from countries where diseases like foot and mouth did exist.

New Zealand normally received favoured treatment for its animal and animal product exports to Australia because it was as free from farm livestock diseases as Australia.

Confidence

The American reaction has been "very positive."

A spokesman for the Ministry of Agriculture and Fisheries, Mr John Lomas, said that the United States authorities had "every confidence in the ability of New Zealand to deal with the emergency."

New Zealand diplomatic posts around the world have had orders to inform their host countries of the possibility of a foot and mouth outbreak.

Wool Movement Banned

Christchurch THE PRESS in English 14 Feb 81 p 3

[Report by Doug Fyfe]

[Text]

A ban has been imposed on the movement of wool outside the area of South Canterbury where it is suspected there may be an outbreak of an exotic disease.

This was announced at a press conference in Timaru yesterday by the controlling veterinarian at emergency headquarters in Timaru, Mr G. Schwarz.

It applies to the area between the Rangitata River and north of the Pareora River, and bounded in the west by Burkes Pass and the Mackenzie Pass.

Mr Schwarz said that the action had been taken because most countries which imported wool required veterinary certificates certifying that the product came from disease-free areas.

The ban would serve the interest of allowing the trade in wool in other parts of New Zealand to continue.

Infection Not Spreading

Wellington THE EVENING POST in English 17 Feb 81 p 4

[Excerpts]

THE rechecking of 60 properties within a three-kilometre radius of the mystery disease at a Temuka farm continued today with no sign of the infection spreading.

The local controller of operations to counter the Temuka threat, Mr Gordon Schwarz, is being withdrawn to Wellington where his expertise is required for ongoing trade negotiations with the People's Republic of China.

A four-man Chinese delegation investigating exports of New Zealand livestock to China is due to arrive shortly.

One of the major areas of their investigation will be New Zealand systems and procedures in the field of quarantine.

Mr Schwarz is superintendent of quarantine for the ministry and his specialised knowledge is required to satisfy the Chinese that this country can meet all their requirements.

Last night the Prime Minister, Mr Muldoon, said the Pirbright research laboratory would not give an unequivocal diagnosis on the suspected exotic disease at Temuka before February 27.

Tests so far at the virus laboratory in England had shown that neither swine vesicular disease or foot-and-mouth were implicated, he said in a statement.

The test inoculation of animals should be completed by February 27, he said.

Britain and the United States imposed no restrictions on meat, livestock or animal products until the results of the tests were known and member states of the European Economic Community were also expected to follow this practice.

Indonesia had so far not imposed any bans, while Australia, Japan, Papoea, Fiji and Papua New Guinea had imposed interim bans on the entry of live animals as well as restrictions on the entry of New Zealand meat, he said.

Tissue Tests Negative

Wellington THE EVENING POST in English 21 Feb 81 p 1

[Text] Tissue tests at Pirbright, England, show that there is no evidence of an outbreak in New Zealand of any of the four major diseases that affect pigs.

The tests covered foot-and-mouth, swine vesicular fever, vesicular exanthema and vesicular stomatitis. The tests were also negative for san miguel sea-lion virus, a disease that has been experimentally transmitted to pigs through infected fish.

The advice from the Pirbright laboratory meant that road blocks within a six-kilometre radius of the Dennis farm at Temuka were lifted at 5am today. Patrols

will be maintained within a three-kilometre radius. The Prime Minister, Mr Muldoon, announcing the results, hailed the news as "a great relief to the Government and farming community."

A final phase of tests involved injecting pigs with material from the Temuka pigs. The result of these tests will not be known until February 28, New Zealand time, but Pirbright has advised that the injected

animals remain perfectly healthy.

Mr Muldoon said "We have been advised that we can rule out the prospects of foot-and-mouth if there is no further outbreak within 14 days of the infected animals being slaughtered. This will come into effect from Wednesday, February 25."

Easing

The news led to the scaling down of controls by the

Ministry of Agriculture and Fisheries near the Temuka farm of John and Susan Dennis where 800 pigs were slaughtered and burned in the first step to controlling the mystery outbreak.

In Wellington the ministry spokesman, Mr Peter Trim, said the head office control centre would close today although officers would remain on standby at home. The Timaru headquarters would control pro-

cedures until February 28, he said.

All of New Zealand's overseas posts are to be advised today that the country has not experienced an outbreak of exotic disease, and normal trading may be expected to resume.

"We are grateful to the ministry staff and those from other departments for their long hours of duty to safeguard New Zealand's vital overseas trade," Mr Muldoon commented.

"We are also gratified by the forbearance and co-operation of the farming community and the public in the Temuka area since the emergency was first reported."

Earlier, the deputy director of the Pirbright Animal Disease Laboratory, Dr Noel Mowat, emphasised that although the laboratory tests were clear the final result would not be known until the

results of animal inoculation tests were known in a week's time.

"So far, none of the animals injected with the infected material have shown any sign of either foot and mouth disease or swine vesicular disease," he said.

"However, there is always a one-in-a-million chance that something may develop, and until the week is up we cannot say conclusively that the tissue is clear of either disease."

Dr Mowat said he considered the authorities in New Zealand would be sensible to continue with the precautionary measures they had already adopted until the final results were known.

"What is the use of giving an interim all-clear when there is still a chance, however remote, that something may develop?" he asked.

"In any case, I am sure it will be far more reassuring

to countries to which New Zealand exports its meat if it can be demonstrated that every conceivable precaution has been taken and nothing has come up."

Question

In Wellington, the question remained over what caused the vesicular symptoms in the Temuka pigs. Mr Trim said only that an external cause such as heat or chemical burns had definitely been ruled out by investigators.

That meant that some virus, bacteria or chemical had affected the pigs internally. Mr Trim pointed out that the cause of a similar mystery outbreak recently in Tasmania had not been discovered. The important point was that the Temuka symptoms had not proved contagious since they were first observed.

Foreign Controls Lifted

Auckland THE NEW ZEALAND HERALD in English 25 Feb 81 p 3

[Excerpts] Tokyo--The Japanese Livestock Promotion Corporation has cancelled a New Zealand beef tender because of the Temuka foot and mouth disease scare, but Australia has just lifted its bans.

Japan offers the worldwide beef tender every four to six weeks and cancelled the New Zealand bid because disease fears had not been officially cleared.

Quarantine

Only meat-exporting countries which meet Japanese quarantine requirements can take part in the tender and, as New Zealand technically does not meet these requirements at the moment, the corporation decided to cancel the tender.

Meanwhile the acting New Zealand director of Animal Health, Mr R. M. Salisbury, said yesterday that the Japanese authorities had been advised of the lifting of

voluntary export restraints imposed at Japan's request at the outbreak of the emergency.

A response was awaited from Japan.

'Big Four'

"Papua New Guinea has lifted all controls. Fiji and Vanuatu are accepting shipments from the North Island and we expect early clearance for South Island exports," he said.

Trade would then be completely back to normal, said Mr Salisbury.

Australia lifted its 12-day import ban yesterday, after accepting that none of the "big four" vesicular diseases was present on the Dennis farm at Temuka.

Japanese Ban Reversed

Auckland THE NEW ZEALAND HERALD in English 26 Feb 81 p 3

[Excerpt]

Herald Corres Tokyo

The Japanese stand on refusing to accept New Zealand beef tenders for next month has been reversed overnight.

The decision came when Japanese Ministry of Agriculture officials talked to the beef importing division of the Livestock Industry Promotion Corporation, to work out a compromise on the New Zealand tenders.

Mr Takayoshi Horikoshi,

the deputy director of the Ministry of Agriculture meat and egg division, said it was agreed that New Zealand beef tenders would be accepted, though they would face cancellation if the final Pirbright test results confirmed the presence of foot and mouth disease at Temuka.

Mr Horikoshi said that the sudden change in policy was not influenced by the decision of other meat importing countries to lift their restrictions on New Zealand meat.

Final Clearance Received

Wellington THE EVENING POST in English 28 Feb 81 p 1

[Excerpt] The mystery pig disease outbreak on a Temuka farm earlier this month was definitely not foot-and-mouth or swine vesicular disease.

"As far as we are concerned the matter is now closed," said a Ministry of Agriculture and Fisheries spokesman, Mr Cargill McKenzie, after final clearance came through today from Pirbright.

Exhaustive progressive tests on tissue samples carried out by the Pirbright laboratory in Surrey proved negative. There was no evidence of any virus.

Forecast

Mr McKenzie said just what pig farmer Mr John Dennis' stock were suffering from, will probably never be known. "It remains an enigma."

Viral Disease Suspected

Wellington THE EVENING POST in English 18 Feb 81 p 44

[Excerpt]

PRELIMINARY local examination of samples taken from the Dennis farm at Temuka suggests that a virus disease is almost certainly involved in the outbreak which resulted in more than 800 pigs being slaughtered.

Scientists conducting the examinations in laboratories at Wallaceville and Lincoln say although the virus is not the dreaded foot-and-mouth nor swine vesicular disease, it is of a type they have never seen before.

Two medical pathologists assisting in the investigations are of the same opinion, the Ministry of Agriculture and Fisheries said today.

Samples were taken from the Dennis farm, where the foot-and-mouth scare originated last week, by Dr Jim Hutton, a senior ministry diagnostician. They were sent to laboratories at Lincoln and Wallaceville under maximum security conditions.

The scientists involved in the tests stressed these were preliminary findings. Further tests would be needed before any degree of certainty could be reached.

Tasmania Parallel Studied

Christchurch THE PRESS in English 18 Feb 81 p 1

[Excerpt]

An unidentified pig disease which broke out in Tasmania 15 months ago is being studied by New Zealand agricultural officials as they try to identify the disease among pigs on a farm near Temuka.

Foot-and-mouth and other known diseases were ruled out in the Tasmanian outbreak in November, 1979, but the disease was never identified, according to the Ministry of Agriculture and Fisheries director of management services, Mr P. Trim.

But some similarities have been noted with the Temuka infection: in both cases pigs farmed near a port were fed on garbage and developed a vesicular disease.

The Tasmanian case is one of a number of studies being carried out by the Ministry at Wallaceville, near Wellington, and studies at Lincoln

have been started on tissues taken from pigs on the farm of Mr John Dennis.

Mr Trim said the tests were to try to find any rare infectious human or animal diseases.

The tests were begun after initial results from the Pirbright research laboratory in Surrey, England, failed to identify foot-and-mouth. Local laboratory tests could look at a much wider range of diseases than could the Pirbright laboratory, Mr Trim said.

An information link with a databank in the United States is also being used by the Ministry to try to match field observations with symptoms of known diseases. The link, called Oasis, works through the Post Office, and has been available to the Ministry for the last year, according to Mr Trim.

Local studies are likely to continue well beyond February 27, the earliest a firm diagnosis is expected from Pirbright.

About 500 Ministry staff have been involved in work on the Temuka outbreak since the disease was first noticed last Tuesday. Twenty of the 100 livestock officers in the area were relieved yesterday by reinforcements from Wellington, and another four veterinarians were also sent in.

Mr Trim said the Ministry had been criticised for "over-reacting" to the crisis. But he said that its reaction was what was required by the international veterinary bodies.

"If we had not reacted this way, we would not be accepted in international veterinary circles, and therefore would not get clearance for our exports," he said.

Live Virus Tests Risky

Auckland THE NEW ZEALAND HERALD in English 21 Feb 81 p 5

[Excerpt]

Press Assn Wellington

The Ministry of Agriculture and Fisheries says delays in foot and mouth test results are insufficient reason to consider such tests in New Zealand.

The latest results from Pirbright, England, on test samples from a mysterious disease in South Canterbury, were expected yesterday, but have been delayed for 24 hours.

But to carry out the tests here live foot and mouth and other viruses would be required, said the MAF communications director, Mr Peter Trim.

Scares

"Even with maximum security precautions, there is always a risk of the virus escaping," he said.

Pirbright had had a couple of scares.

The delays for New Zealand trade and the resulting cost to the country did not outweigh the risks of holding live virus in this country, said Mr Trim.

"New Zealand, which has never had foot and mouth or any of the other major vesicular diseases, is not prepared to take the risk of introducing the viruses, even for a testing bank," said Mr Trim.

Garbage Feeding Criticized

Christchurch THE PRESS in English 14 Feb 81 p 3

[Report by Peter Comer]

[Excerpts]

The feeding of processed garbage to pigs should be banned, according to the president of the Temuka Pig Improvement Club, Mr Noel Dennison.

Mr Dennison is convinced that whatever the disease found on Mr John Dennis's pig farm near Winchester proves to be, it is linked to their garbage diet.

"If garbage feeding was banned, the Ministry of Agriculture could pretty well forget about foot-and-mouth in pigs," said Mr Dennison.

He said that any exotic animal disease had to be brought into New Zealand somehow, and garbage feeding brought the danger of taking contaminated food on to farms.

Mr Dennison has said that his slaughtered pigs had been fed mainly on scraps, most of which came from

hotels and restaurants. The food was processed in cookers which were inspected regularly by the Ministry of Agriculture.

Mr Dennison said that Mr Dennis had spoken to him on Tuesday about the costs and methods of meal-feeding. "He is very careful and conscientious, and he cooks the stuff well, but garbage feeding is inefficient and dangerous."

"The Ministry can check things as thoroughly as it likes, but it cannot control the feed between the restaurant and the cooker. Anything could happen in this time," he said.

The Ministry believes that cooking any garbage at the temperatures and times laid down in the regulations would certainly kill viruses, including foot-and-mouth.

Mr Dennison has his own theory about how 28 of Mr

Dennis's pigs got the blistering on their snouts and trotters which led to the destruction of more than 700 others. He believes that the pen might have been given feed which was still too hot, and, pigs being pigs, they plunged into it, burning themselves. His theory has not been discounted by the Ministry.

The Tamaru Harbour Board was reluctant to comment yesterday on suggestions that the slaughtered pigs may have eaten diseased garbage from foreign ships berthed at the port.

"I have no idea. I would not like to comment at this stage," said the board's general manager, Mr B. E. C. Strathern.

Mr Strathern said that the board did have a modern and efficient disposal unit to handle garbage from visiting ships, some of which could

be in port for some time. The unit was run in accordance with tight regulations, and under the supervision of the Ministry of Agriculture.

The suggestion the pigs might have eaten diseased meat from overseas vessels came from a former advisory officer to the Pork Industry Council, Mr L. D. Eddy, of Temuka.

Pig farmers who used garbage as feed for their stock were in a minority, especially in the South Island, and the practice was strictly regulated, said the chief executive of the Pork Industry Council, Mr D. Dobson, yesterday, reports the Press Assn.

"All garbage is required to be cooked at very high temperatures, and producers using this method of feeding are registered, and their activities policed by Ministry staff," Mr Dobson said.

Christchurch THE PRESS in English 16 Feb 81 p 16

[Editorial: "A Tense Time of Waiting"]

[Excerpt]

Even as a scare, the events of the last few days have been costly and disruptive. But some good purposes have been served all the same. The speed and apparent efficiency with which officials of the Ministry of Agriculture moved to contain the disease must have impressed not just New Zealanders but also people in countries overseas which import meat and other animal products from New Zealand. The Ministry certainly acted properly in treating the outbreak from the start as a possible outbreak of foot-and-mouth disease.

Any inclination to regard the Ministry's actions as over-reactions can be countered by reference to the good impression its quick, ruthless steps have made overseas. An official of the United States Department of Agriculture commented that American officials trusted the New Zealand authorities and knew they would not jeopardise New Zealand's markets by hiding anything. This confidence that New Zealand would cope quickly and effectively with any suspected outbreak of foot-and-mouth disease must explain, in part, why the reaction in most other countries to the news of the illness of the pigs in South Canterbury was low-key and precautionary.

All the same, the actions which other countries indicated they would take if the outbreak were confirmed as foot-and-mouth disease were a salutary

reminder for New Zealand of the effect an outbreak of the disease would have on this country. The need has been underlined, and underlined again, for constant vigilance and for restrictions and requirements which may seem petty and irksome, to travellers entering New Zealand among others, but which can now be seen more clearly to be sensible and vitally necessary.

While the crisis is fresh in people's minds, it would make sense for the Ministry of Agriculture to publicise what the restrictions intended to keep the disease out of New Zealand are and how they can best be observed by everyone in the community. One possible area in which the restrictions and regulations may have to be tightened is the feeding of garbage to pigs, if this proves to have been a possible route of infection. The public may need reassurance that the precautions against the acknowledged risks in the practice are adequate, if indeed they are.

The events in South Canterbury have emphasised the need to eliminate every possible risk that foot-and-mouth disease might one day get established in New Zealand. The country has marketing difficulties enough for its primary produce without such a serious disadvantage which would close some markets completely to some New Zealand products and give the opponents of imports from New Zealand in certain key countries an added stick with which to beat this country.

Auckland 'HERALD' Judgment

Auckland THE NEW ZEALAND HERALD in English 16 Feb 81 p 6

[Editorial: "Temuka Tensions Bear Benefits"]

[Text]

It is impossible to be dogmatic about effects of the livestock emergency in South Canterbury until the disease symptoms found in pigs near Temuka have been diagnosed. Nevertheless, the country is entitled to breathe rather more easily for the absence, so far, of evidence that the affliction has spread.

While a degree of tension necessarily endures, some benefits from the experience can already be counted. Perhaps the chief one is the reminder that the country can never relax its ever-present but only occasionally raised fear that foot-and-mouth disease will invade these shores.

Probability alone may make that day no more than a matter of time. The Temuka alarm has at least afforded authorities the opportunity for a comprehensive exercise in counter-measures, uncomfortably realistic, perhaps, but no less draconian than the response required were foot-and-mouth disease proved here.

Alarm has surely made an essentially urban community aware of its heavy economic reliance on farm output. More particularly, the ominous events of the past few days have emphasised just how precarious an economy still so dependent on the health of livestock can suddenly seem.

Wellington 'POST' Editorial

Wellington THE EVENING POST in English 18 Feb 81 p 2

[Editorial: "Magnificent Job"]

[Text]

IT HAS become the done thing to poke ridicule at our bureaucratic "tasspots" and their unbending allegiance to the bureaucratic machine.

But we think the country in general will agree that the bureaucrats have done a magnificent and necessarily meticulous job in the way they have handled the foot-and-mouth scare on the Dennis farm at Timaru.

The Ministry of Agriculture and Fisheries, the police and all concerned in the massive operation are to be congratulated on their efficiency and state of preparedness for such a crisis.

The admiration will be mingled with sympathy for the small team of Ministry of Agriculture staff who had the

nauseating job of wading, sifting and working their way through three 500-gallon vats of stinking garbage as they searched for the source of the scare.

New Zealand has a worldwide reputation for animal cleanliness and for the exacting standards it applies to maintain its good name (and its economic mainstay).

If, as now seems likely, it all turns out to be a false alarm, there will be a small minority who will say we over-reacted.

If the Timaru operation was a case of over-reaction we trust there will be a repeat of it should a similar scare ever arise again.

LOSSES HIGH FROM VIBRIO INFECTION IN SHEEP

Christchurch THE PRESS in English 13 Feb 81 p 14

[Text]

New Zealand sheep farmers are losing between \$500,000 and \$1M a year from abortion caused by vibrio infection, reports the Press Association.

That is the estimate of the Ministry of Agriculture and Fisheries based on a survey of farms in southern Hawke's Bay, Ashburton and Southland during the last lambing season.

"The study has confirmed that for some farmers, perhaps 400 in New Zealand every year, vibriotic abortion causes a substantial loss — a loss upward of \$600 and averaging \$1500 per farm," said the survey co-ordinator, Kathy Christiansen.

Probably another 100 farmers lose around \$300 each, she said.

Over a third of the 108 farms surveyed had more than five per cent of the ewes in their flock abort. On average, this meant a loss of about \$2000 on each farm.

"On farms where abortion losses were high, vibrio infection was the main culprit, being re-

sponsible for two-thirds of all the abortion storms."

At present there was no sure way that farmers could prevent vibriotic abortion occurring in their flocks, but ewes which abort from the disease were immune from the infection for life and should be retained in the flock.

Ashburton district loss

Based on a survey of abortion in sheep in the Ashburton district undertaken this season Mr R. C. Gumbrell, veterinary investigation officer with the Animal Health Laboratory of the Ministry of

Agriculture at Lincoln, reported on these pages recently that during the late winter and spring last year about \$80,000 was lost on farms in Mid-Canterbury as a result of vibrio abortion in ewes.

BRIEFS

POISON SEED FOR FEED--The Nigerian Cotton Board (NCB) has warned the public on the danger of feeding livestock with chemically treated cotton seeds meant for planting. A statement issued by the General Manager, Alhaji Abubakar Gusau, said that such cotton seeds were dressed with a poisonous substance called "bronocot" and could kill animals fed with them. Alhaji Abubakar said that the cotton seeds in question were part of the 25,000 tonnes currently being distributed to farmers but had found their way into the market. He added that the diversion of the seeds which were meant for planting during the next crop season could affect the production of cotton. The general manager called on state and local governments to take steps "to avoid the imminent adverse consequences." He requested law enforcement agencies to help track down those who had introduced the seeds in the livestock feed market. The seed "can be identified by" its pinkish colour as opposed to the unstained seed which is white" the general manager added (NAN). [Text] [Kaduna NEW NIGERIAN in English 21 Feb 81 p 15]

CSO: 3400

EFFORT TO WIPE OUT RABIES, ANTHRAX IN MARANDELLAS DESCRIBED

Salisbury THE HERALD in English 6 Mar 81 p 3

[Text]

RABIES and anthrax in the Marandellas area, which became widespread during the war, will be brought under control quickly if people respond to vaccination campaigns, the Veterinary Services Department says.

The animal health inspector stationed in Macheka, Mr Antony Rauch, yesterday urged more people to bring their dogs for vaccination.

There were 84 confirmed cases of rabies last year and this year nine cases had been identified.

A rabid jackal was killed recently in the grounds of the Godfrey Huggins Primary School where children were playing.

"We have gone into the communal areas vaccinating dogs, and the exercise will be done every year," Mr Rauch said.

There had been good response so far from

Mangwende, but the turnout in Wedza had not been encouraging.

Mr Rauch said vaccination teams would soon be going back to these areas.

The service is free.

"The situation is better than last year. With our teams going into TLA we have some form of control."

People now realised that they could die if they failed to respond to vaccination campaigns.

Dogs should be vaccinated at three months, again at nine months and thereafter once every three years.

Teams conducting vaccinations against anthrax had been out to Mangwende, Svove, Wedza and other surrounding areas.

At Mangwende 62 368 cattle were vaccinated for anthrax while 2 131 dogs were inoculated against rabies.

Last July in Wedza 23 000 cattle were vaccinated. The expected number was 50 000.

"People at the time were still anti-Government but now they willingly work with us."

"We will be going back to Wedza as soon as the weather permits. At the moment our trucks get bogged in the mud, but from June onwards we should be able to mount a heavy vaccination campaign," he said.

To control anthrax, Mr Rauch said, the exercise would have to be done annually for the next five years.

He expressed concern that people were not dipping their cattle regularly.

Dipping should be done every week.

Mr Rauch said all dip tanks should be in operation within the next six to eight months.

The reconstruction task was taking a long time as some of the dips had been completely destroyed and some of the old material could be used.

"A lot of dip tanks are reopening and a lot more are under reconstruction," he said.

ARGENTINA

BRIEFS

LOCUST PROBLEM--Catamarca--The town of Chumbicha, 45 km from the provincial capital of Catamarca, has been practically invaded by locusts. These insects are causing great losses to local plantations and considerable damage to local businesses. [Buenos Aires Domestic Service in Spanish 1600 GMT 12 Mar 81 PY]

CSO: 5400

COLOMBIA

BRIEFS

CORN INFESTATION--Cali, Colombia--Experts of the National Agricultural and Livestock Research Center have detected a new insect disease plague that attacks corn plants here in Colombia. The insect belongs to the order Hemiptera and has also been attacking yuca and African palm plantations. The plague, which consists of bugs found in the roots, has not been fought because the correct method is not yet known. [Bogota Radio Sutatenza Network in Spanish 1200 GMT 2 Mar 81 PA]

CSO: 5400

COSTA RICA

BRIEFS

NICARAGUA BORDER QUARANTINE--San Jose, 28 Feb (ACAN-EFE)--Costa Rica today announced new quarantine measures on the border with Nicaragua and the airports after receiving reports on the outbreak of coffee rust in the Central American countries. Agricultural Ministry official Rodrigo Castro said the outbreak of coffee rust anywhere in the country would be very serious, since the government would have to spend huge amounts to halt the spread of the disease. Inspectors at the airports, ports and border are confiscating coffee and plants being brought in from other countries, since these might be infected with coffee rust. [Panama City ACAN in Spanish 1709 GMT 28 Feb 81 PA]

BANANA DISEASE ALARM--There is widespread alarm among Costa Rican banana farmers that black sigatoka disease might ruin their crops. An outbreak of the disease has been reported in plantations in Panama near Costa Rica's border. [San Jose Radio Reloj in Spanish 1200 GMT 5 Mar 81 PA]

CSO: 5400

INDONESIA

BRIEFS

INSECT PESTS--Up to January 1981, 4,000 hectares of rice land in Bali and 1,000 hectares in Lombok had been attacked by green hama wereng. The affected area will be treated with Basudin 90 SCC, applied from the air and on the ground, with one liter per hectare. Green hama wereng attacks VUTW PB-36 rice, which is immune to brown hama wereng. Damage comes not from the green hama wereng, directly, but from the virus it spreads. No rice strains are immune to the virus. [Excerpts] [Jakarta KOMPAS in Indonesian 22 Jan 81 pp 1, 12] 9197

CSO: 5400

BLIND SEED DISEASE IN RYEGRASS CROPS WORST SINCE 1958

Christchurch THE PRESS in English 13 Feb 81 p 13

[Text] This is the worst season for blind seed disease in ryegrass crops since 1958, according to Mr D. J. Scott, who is the officer in charge of the Ministry of Agriculture's seed testing station at Palmerston North.

Readers will have noticed a small item in the general news columns of "The Press" this week reporting that germination tests on field dressed lines of ryegrass, particularly perennial varieties such as Nui and Ruanui, were showing that a high proportion of lines were suffering damage from the disease.

Mr Scott said that situation was tending to worsen as testing proceeded.

With about 80 samples tested, with these being predominantly from Canterbury, Mr Scott said that 10 per cent of South Island samples were giving a germination of 90 per cent or better, 31 per cent a germination from 80 to 89 per cent, 32 per cent a germination from 70 to 79 per cent and 17 per cent a germination of under 50 per cent.

Last season only 14 per cent of South Island samples were in the category giving a 50 to 79 per cent germination and 63 per cent were in the top grade.

Although the situation is less serious in the North Island, the position

is worse than last year with 30 per cent of samples this year being in the 50 to 69 per cent germination range compared with 25 per cent in 1980.

As far as Canterbury is concerned the problem appears to be widespread with crops in Ashburton, Timaru and Rangiora districts being affected.

"The increase in the incidence of the disease this year is undoubtedly due to the damp conditions experienced in many areas during the flowering stage — from early to mid November through to Christmas," says Mr Scott. "These conditions allow a rapid build-up and spread of spores of the fungus *Gloeotinia temulenta*, which infects and kills the developing seeds."

"There is no fully effective means of controlling the disease as the weather conditions have such a dominant effect on its occurrence. However, recent research work by Ministry scientists has confirmed that spring applications of nitrogenous fertilisers such as urea, will help reduce the amount of infected seed in

the crop," Mr Scott said that information from overseas also pointed to this.

A dry spell in the present season preceding the rains that favoured the spread of the disease could have also meant that nitrogen used was not effective.

It could, of course, have been that nitrogen was not used at all.

"This season Ministry field officers in Canterbury noticed that lodging of ryegrass crops was not as common as usual suggesting a low nitrogen status and increasing susceptibility to blind seed disease. Lack of nitrogen may also have reduced seed yields."

While there was no way to control the disease, Mr Scott said that next season advisory work would be concentrating on minimising its impact by applying nitrogen about the time that seed crops were closed up in the spring.

"Second year and succeeding year ryegrass seed crops are particularly prone to blind seed disease because even small

numbers of diseased seed sown on the ground from the first crop act as a ready source of infection in the following season. Any crops that have produced infected low germinating lines this season should not be used for seed production next year."

After this year's crop there is likely to be a lot of infected seed on the ground and if there is a repetition of this year's weather conditions next year trouble could be expected again, but on the other hand if conditions are not favourable for the development of the disease there will be no problem.

The Ministry of Agriculture's germination testing service for field dressed lines is provided free each year to enable growers to determine the approximate germination of their field dressed ryegrass seed lines before committing themselves to the expense of machine cleaning. Mr Scott said. Growers could arrange with their seed merchants to have samples sent to the seed testing station at Palmerston North for testing.

WHEAT PRODUCTION PROPOSALS ORGANIZED AGAINST DROUGHT

HK061336 Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 5 Mar 81

[Summary] "In late February, the Ministry of Agriculture organized wheat experts from Beijing Municipality, Hebei, Shandong and Henan Provinces and the Chinese Institute of Agricultural Science to conduct a 10-day investigation of wheat in Henan's countryside. The investigation ended on 2 March."

The experts held: "The foundation for wheat sowing in the province this year is comparatively better. The growth of seedlings is also comparatively better. However, there are also some problems."

At present, the drought situation in most areas of the province is worsening daily. Therefore, it is necessary to give full play to the role of all water conservancy projects, increase the irrigated wheat areas, do a good job of interrow tillage, scientifically apply fertilizer, increase the temperature of farmland and promote the growing of wheat seedlings following winter dormancy.

"In southern Henan, due to the protracted drought since last winter, the temperatures are exceptionally high. Thus, insect pests will be more serious. In Nanyang Prefecture, wheat aphid pests struck before winter. The affected areas extended to 693,000 mu, with 12,000 mu seriously affected or destroyed. The breeding of insect pests during winter was high. Therefore, it is possible there will be an outbreak of insect pests over large areas this spring. It is hoped that various areas will strengthen their monitoring of insect pests and make full preparations to prevent serious destruction by insect pests."

To ward off the effects of dry and hot winds, it is necessary to grasp the facts. Otherwise it will affect the growth of wheat. However, in view of the chemicals that the province has applied over the farmland, efforts have been made to lessen the effects of dry and hot winds. This year, various areas in the province have made preparations to spray chemicals over 20 million mu of farmland throughout the province.

"Now, the countryside in the province is following the rational proposals of the experts arrived at from their wheat investigation, and will also adopt measures to further whip up an upsurge of tending the spring wheat farmland, so as to reap a bumper wheat harvest this year."

CSO: 5400

CAMPAIGN AGAINST DESTRUCTIVE NUN MOTH DESCRIBED

Warsaw LAS in Polish 1-15 Nov 80 pp 8-12

[Article by Prof Dr Jerzy Burzynski, M. Eng. Stefania Bychawska, and Doc Dr Edmund Sliwa, Warsaw, Forestry Research Institute: "The Nun Moth and Its Control in Poland"]

[Text] Recently a large-scale campaign against the nun moth--one of the greatest forest pests in this country--has come to an end. What is the history of occurrence of this pest in Poland? Has the campaign been successful? Has the gradation of the nun moth completely stopped? These questions are answered by the article below, authored by staff members of the Forest Protection Laboratory of the IBL [Forestry Research Institute].

For 3 years now the nun moth has been present in the forest complexes of Northern Poland to an extent and over an area unprecedented in the history of our forests. The caterpillars of this moth, which is so commonly known to foresters, feed on pine and spruce treetops, as well as on the treetops of certain deciduous species, causing considerable economic losses. Their feeding is of the wasteful kind, that is, they bite off more needles than they eat. This is evidenced by the large numbers of needle fragments observed among the nodules of excrementa under the tops of markedly infested trees.

Deciduous trees undergo regeneration of their assimilative apparatus after a few weeks even if their foliage is completely devoured. Pine forests also largely recover their needles given favorable atmospheric conditions. But for spruce forests total denudation of needles is generally tantamount to a rapid death of trees.

Mass infestations by the nun moth are known to occur throughout Europe; in Poland, they date back approximately 200 years. The causes of the occurrence and the course of the gradation of both this insect and others belonging in the group of so-called primary pests are varied, complicated, and so far not unambiguously determined by science. True, many theories exist on this subject (e.g. the parasite, climate, feeding, circulation-of-upper-layers-of-the atmosphere, biocenotic, milieu-resistance, and other theories), but not one of them has been fully confirmed by numerous confrontations with experience in other time and area frames.

1980 campaign against the nun moth (*Lymantria monacha* L.)

● Zwiększenie brudnicy monachi (*Lymantria monacha* L.) w 1980 r.



● nadleśnictwa objęte zabiegami ratowniczymi

Forestry inspectorates covered by the campaign

In a recent study (EKOLOGIA OWADÓW LESNYCH [Ecology of Forest Insects], PWN [Państwowe Wydawnictwo Naukowe], 1980), Prof. A. Szujewski notes: "The problems of insect population dynamics are among the most complex and controversial problems for which a satisfactory solution is still far off.... Although to most ecologists the existence of insect population regulating mechanisms appears undoubted, this idea itself still remains a hypothesis, even if supported by numerous conclusions." In his turn Prof. W. Koehler (ZARYS HYLOPATOLOGII [An Outline of Hylopathology], PWN, 1978) observes: Given the present state of knowledge, it apparently is justified to regard every individual case of gradation as a unique phenomenon with its own distinctive stages of formation, development, and course of a specific population-conditioned phytophage as well as of its natural predators."

Thus there do not yet exist any workable and specific criteria for a sufficiently early prediction of an intensified or mass infestation by phytophagous pests or, the more so, for controlling the factors that stimulate such infestations. On the

other hand, an early discovery of the increase in the pest population is feasible, as is an early implementation of effective counter-measures.

In Poland the nun moth finds exceptionally favorable feeding conditions on large tracts of dense pine and spruce forests. Other factors also, as evidenced by frequent infestations, contribute to its development.

Compared with other primary pine-tree pests, the nun moth has relatively few natural enemies of practical importance. Mention should be made of, among others, the following parasitic insects: tachina flies (*Parasetigena agilis*) and ichneumon flies (chiefly *Pimpla* sp.), while among the predator insects the "swallowtail" (*Troilus luridus*) and the "serpent flies" (*Raphidia ophiopsis*) are of some importance. Certain birds (chiefly the coalmouse) sometimes destroy large quantities of larval eggs.

Only viral diseases are more active in liquidating the caterpillars of this pest. Instances of epizooty caused by the virus *Borrelia virus efficiens* Holmes, which results in nuclear polyedrosis known as insect virus disease, have been known to occur. This effective disease usually occurs, however, toward the end of gradation, and by that time the intact caterpillars will already have substantially ravaged the tree stands.

The old classical methods of nun moth control consisted of mechanical manual destruction of deposits of larval eggs and caterpillars as well as of pupae and butterflies; large numbers of the butterflies also were destroyed in the flames of bonfires started at night.

In 1925, on the area of the then-State Forest in Bydgoszcz (Macin forestry inspectorate), chemical pesticides sprayed from aircraft already began to be used. During the postwar period the nun moth was combatted with the aid of Efuzan (dinitroorthocresol) and subsequently by means of chlorinated hydrocarbons (HCH and DDT), and currently with pesticides in the pyrethroid group (Ambush 25 EC). Biopreparations containing the pesticidal bacteria *Bacillus thuringiensis* also are effective in nun moth control. Generally speaking, the markedly hirsute caterpillars of this pest, particularly in the later stages of their development, display considerable resistance to insecticides, especially in comparison with the hairless caterpillar of the noctuid--pine bug moth--and the geometrical moth (*Bupalus piniarius*).

In the postwar period the nun moth has become a permanent pine and spruce tree pest in many forested areas throughout the country, with the degree of its infestation varying from year to year. Measures to combat the nun moth have been repeated 27 times by 1979 on an aggregate area of about 313,000 hectares.

The first gradation of the nun moth during the 1946-1952 commenced in southeastern Poland. Subsequently it spread throughout the country, reaching its culmination point in 1950, when the combined area of the infested tree stands had reached a peak of 240,000 hectares.

During that period rescue operations extended to only 18,000 hectares. This was due to the menacing but not catastrophic extent of infestation by this pest, and chiefly to the lack of technical capability for nun moth control at that period.

The damage was considerable: several score thousand hectares of tree stands were markedly damaged, and several thousand had to be cleared.

Toward the end of that gradation there had broken out the insect virus disease which to a large extent suppressed this pest. In 1955 the next and still more marked period of nun moth infestation had been recorded, chiefly in central and south-eastern Poland, and it had lasted until 1960.

After that, the next gradation took place during the 1962-1968 period and spread, first, through all forestry inspectorates in the Notecka Forest and, later, to the Central Polish Highlands (OZLP [District Administrations of State Forests] near Lodz, Lublin, and Przemysl). Chemical pesticides (19,000 hectares in 1966 and nearly 25,000 hectares in 1967) served to eliminate a majority of important gradation foci and prevented any substantial timberland losses.

More numerous and equally menacing infestations by the nun moth were also recorded during the 1970-1975 period, when timberlands were infested to a varying degree (in 1974 this infestation was combatted on an area amounting to more than 9,000 hectares).

The current gradation of the nun moth, which encompasses northern Poland, is the worst ever, as regards both its territorial scope and the degree of threat to the timberlands. In 1977 a weak infestation had been recorded on an area of about 500 hectares, but as soon as a year later it already had to be combatted over an area of more than 20,000 hectares.

The marked viability of the caterpillars as well as of the larval eggs deposited following intense swarming by the butterflies, pointed to an extremely intense further proliferation of the nun moth. The aggregate area of timberlands subject to nun moth control measures had increased in 1979 by a factor of 9 (to nearly 180,000 hectares), having spread across 62 forest inspectorates located in 7 northern district State Forest administrations.

Despite strenuous effort and devotion of the foresters who had taken part in that campaign, it did not prove sufficiently effective. The pesticide Mglawik L-8, produced in Jaworzno and applied to about 70 percent of that area, did not cause a sufficiently high caterpillar mortality, particularly in the later development stages.

Although the measures taken in 1979 did not produce the expected results, they served to rescue from total destruction large areas of what would otherwise have been doomed timberland. That year, the gradation of the nun moth did not cease, and environmental resistance was not found to be active, while swarming by the butterflies was extremely intense and the pest displayed a vigorous proliferation rate and was observed on new areas.

On the basis of swarming observations in July and August 1979, the area infested by the nun moth was estimated at more than 600,000 hectares and the planned counter-measures were to extend to 432,000 hectares. The areas of mass infestation by the pest were located in 118 forestry inspectorates, 8 OZLP, and 17 voivodships.

Owing to a reassessment of the degree of infestation of timberlands performed by Scientific Protection Stations, rescue operations were carried out in the spring of 1980 over an aggregate area of 509,143 hectares located in 82 forestry inspectorates (see table).

Area of Tree-Stands Under Nun Moth Control Operations in 1980

District Administration of State Forests	Number of Forestry Inspectorates	Area of Tree-Stands Covered by Campaign (in hectares)	Duration of Campaign
Bialystok	6	7,977	9-20 June 1980
Lodz	1	4,770	6-11 June 1980
Olsztyn	14	31,033	6-15 June 1980
Pila	15	184,826	31 May-27 June 1980
Poznan	2	9,003	6-10 June 1980
Szczecin	8	41,019	6-11 June 1980
Szczecinsk	15	65,511	9-21 June 1980
Torun	21	165,000	4-20 June 1980
T O T A L	82	509,143	

Both the preparation of such an extensive campaign and its implementation required tremendous effort and large-scale mobilization of workers at every level. The Decision No 176 of 14 December 1979 of the Presidium of the Government placed the Ministries of Chemical Industry, Machine-Building Industry, and Transportation, as well as the voivodes and municipal presidents under the obligation of cooperating with the object of assuring the needed resources for the acquisition, preparation and transportation of insecticides and the provision of agricultural-aviation services. Within every OZLP a headquarters for directing the campaign was set up. In addition, four Scientific Protection Stations operated under the direction of staff members of the Forest Protection Laboratory of the IBL: the central station in the Osie Forest Inspectorate (OZLP Torun) and the regional stations in Nidzica (OZLP Olsztyn), Jastrow (OZLP Pila) and Drawnie (OZLP Szczecin).

The insecticide Ambush 25 EC, produced by a British company (ICI), was applied to about 70 percent of the area. The active substance of this insecticide is a synthetic pyrethroid--permethrin. One hundred cc of this preparation, mixed with 2 or 5 liters of motor oil, i.e. in proportions of 1:20 or 1:50, depending on the equipment installed in aircraft, was applied to every hectare. Several aircraft were equipped with mist-spray apparatus consuming 2 liters of working fluid per hectare, while the other aircraft performed droplet spraying, which required at least 5 liters of the working fluid to cover each hectare.

On the remaining areas the principal chemical to be applied was Mglawik Ekstra, at the rate of 10 liters per hectare, followed by other, experimentally applied, pyrethroids such as Decis, Ripcord, Sumicidin, and others. Slightly more than 2,000 hectares, chiefly on lake shores, were treated with the biopreparations Bactospeine and Thuricide, containing the insecticidal bacteria *Bacillus thuringiensis*.

The insecticides were applied with the aid of 55 AN-2 aircraft and 5 Mi-2 type helicopters.

Owing to the efficient preparation of the campaign, the chemical operations could be carried out at the proper period, i.e. while the caterpillars were in the earliest stage. Moreover, the extremely good quality of Ambush caused a high mortality of the pest wherever the spraying equipment was appropriate and the weather conditions were favorable.

The 1980 campaign against the nun moth resulted in saving vast tracts of timberland that were in mortal danger (although the treetops on roughly 10 percent of the aggregate area were found to be denuded to a varying extent, including marked and complete denudation). However, the pest population could not be reduced to below the economic harm level.

The nun moth infestation continues to be considerable, although this year the factors contributing to natural environmental resistance were found to increase. A high mortality rate of caterpillars, whose bodies were found to contain nonsporulating bacteria, has been widely observed. Samples collected in several forestry inspectorates were found to contain crystals of the insect disease virus. Moreover, the bodies of the dead caterpillars contained larvae of parasitic tachina flies and ichneumon flies, and certain species of predator insects were locally quite numerous (swallowtail and serpent flies).

The reasons for the persistence of the large nun moth population and its propagation through increasingly greater areas include not only the vigorous proliferation of that species, but also factors associated with incomplete effectiveness of this year's campaign:

--Defective and sometimes maladjusted aircraft-borne spraying equipment and occasional improper flight techniques, which caused nonuniform application of chemicals to the tree-stand areas, thus assured the possibility of survival of a part of the pest population even on areas where the highly effective Ambush was applied.

--Mglawik Ekstra, applied to about 30 percent of the aggregate area, proved to be incompletely effective.

--In compliance with Health Service requirements, Ambush was not applied to 500 m wide tree-stand belts contiguous to lakes and rivers. Portions of these tree-stand belts were treated with biopreparations, but in the others the nun moth wrought considerable damage. These areas became the foci of propagation of this pest in butterfly form over marked distances.

--The nun moth population in most tree-stands was several times above the critical level, with often as many as some 15,000 caterpillars feeding on a single treetop. In such cases even the extremely effective Ambush (causing, e.g. a 96-98 percent mortality rate of the caterpillars) still left alive 2-4 percent of the population--several hundred individuals per treetop which, given their high vitality, caused partial treetop denudation and continue to present a threat to tree-stands.

Thus, despite the energetic campaign undertaken in 1980 and the commitment of all possible resources, as well as despite the high effectiveness of Ambush, the situation remains highly serious and menacing on a scale unprecedented in the history of our forestry. Hence, next year the prevention of unusual damage menacing the coniferous tree-stands in northern Poland will require tremendous exertions and the mobilization of all efforts and resources both on the part of forest-service personnel caring for these tree-stands and on the part of forestry researchers.

1386

CSO: 5400

PYRETHROIDS TO BE FIXED IN CONIFEROUS PLANTS TO CONTROL HYLOBIUS

Stockholm DAGENS NYHETER in Swedish 8 Feb 81 p 12

[Text] A new way to protect conifers from pine weevils, and one that is harmless to personnel, may be put on the market next year. An apparatus is being tested right now that fixes a chemical preparation on the plant without the personnel's having to come into contact with the preparation.

Since DDT was prohibited in 1975 the attack of the pine weevil (Hylobius) has increased considerably. The damage may amount to as much as 1.5 billion kronor a year.

So says the periodical SKOGEN [The Forest] in its latest number.

It is not a question of any new chemical preparation; synthetic pyrethroids are used which are sold under the names "Ipitox" and "Ambush." They were approved in 1979, but the Forestry Workers' Union has questioned whether the preparations do not cause damage to man. Up to now the plants have been immersed in the preparations.

Now a simple apparatus has been invented. With it the preparation is fixed on the plants. The development of this apparatus was started as part of a project directed by the Forestry Board.

The apparatus has a container for the chemical preparation and a long shaft with a clamp at the end. The preparation flows through the shaft to the clamp, where two sponges press against the plant. The personnel need not come into direct contact with the preparation at all. In addition, a smaller amount of the preparation is required than with the method of immersing the plants.

Larvae in Stumps

In tests of the sponge clamps at five different places the protection against the pine weevil was fully satisfactory, though not as good as when the plants are immersed in the chemical preparation. If continued experiments turn out well, the apparatus may be on the market by the 1982 spring season.

The pine weevil is an insect that does great damage to young spruce and pine plants.

The larvae develop in stumps and roots of coniferous trees and the adult weevils then crawl to young plants and eat the bark. Usually the plant dies from the attack. How great damage the pine weevil causes every year is uncertain, but total costs of 1.5 billion [kronor] have been mentioned. The cost of replanting after the pine weevil alone amounts to 44 million.

Plastic Collar

Since DDT was outlawed in 1975 the attack of the pine weevil has increased. Various methods of combatting the weevil have been tested, including a plastic collar around the trunk.

The other big pest in the coniferous forest is the bark beetle, which is found on larger trees.

8815

CSO: 5400

END

END OF

FICHE

DATE FILMED

3/30/81